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PENNSYLVANIA GAME NEWS

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COVER PAINTING BY RON JENKINS

Cardinals are year-round residents of Pennsylvania, popular with everyone because of the splashes of color they bring to a winter landscape. Those shown on our cover bring other benefits as well. Full color, limited edition, 16x20-inch prints of the painting, which is owned by the St. Louis Football Cardinals, are available from the National Wildlife Art Exchange, PO Drawer 3585, Vero Beach, Fla. 32960, at \$25.50 each. Of this, \$9.00 has been designated for the benefit of the St. Louis Children's Hospital, to help fulfill the medical needs of youngsters in that area.

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The Biggest Buck

IN THE JULY, 1975, editorial we pointed out how the anti-gun, anti-hunting groups regularly and loudly lie to the public, collecting vast amounts of money through emotional appeals and then using that money to oppose legitimate sport hunting and private gun ownership. We pointed out that a sportsmen-supported national organization which can and will oppose the anti-hunting groups in court was needed.

Such a group now exists. It is the Hunters Legal Defense Fund. Administered by the Game Conservation International (Game Coin), the Fund has been granted tax-exempt and tax-deductible status by the Internal Revenue Service. While Game Coin was selected to administer the Fund, an advisory committee, which will evaluate and recommend where legal action should be taken, will be composed of representatives of more than 25 conservation organizations. These recommendations will be studied further by a five-man ad hoc committee comprised of Game Coin officers and directors. On approval, the action under consideration will be placed in the hands of legal counsel.

An organization such as this is necessary to the sport hunter's continued existence. There are currently 25 organizations with full time representatives in Washington, D.C., whose primary goal is to eliminate hunting. They are heavily funded, have huge memberships and know how to apply pressure to get votes for their anti-hunting programs. Consider just five of these 25 groups: Defenders of Wildlife, Fund for Animals, Humane Society of the United States, Animal Protection Institute, and Friends of Animals. In 1973 (latest year with available data), they had a total income of \$13,956,292, total disbursements of \$5,263,342.

Where do these disbursements go? One example—Cleveland Amory's Fund for Animals currently is involved in litigation to force the Department of the Interior and the U.S. Fish and Wildlife Service to take the greater snow goose, the Atlantic brant, the merganser and the goldeneye duck off the list of migratory waterfowl which can be hunted. He also runs ads to promote his book, saying, "If your donation is \$12 or more you will receive free a copy of Mr. Amory's best-selling book *Man Kind?*, on which *Guns of Autumn* was based." That alone is enough to tell you what Amory's aims are. The other 24 anti-hunting groups are just as dedicated. They have the money and they have the muscle in Washington. The only way we can successfully oppose them is to take them to court when they make their ridiculous claims. This takes money, and that's why the Hunters Legal Defense Fund is asking for your help. A dollar from each of the hunting license buyers and the non-hunting gun owners in the country could add up to over \$50 million—enough to take on the anti's wherever they raise their heads. That isn't much from any of us individually, but it could be the biggest buck any of us ever spent. Tax-deductible contributions can be mailed to: Hunters Legal Defense Fund, Petroleum Center, Suite D-211, San Antonio, Texas 78209. I'm mailing my buck today. Are you with me?—Bob Bell.



DOUG PIFER

The Varying Hare

By Chuck Fergus

GAME NEWS Staff Writer

VARYING hare—snowshoe rabbit. Both names describe physical properties of *Lepus americanus*, the big hare of Pennsylvania's north woods. "Varying" refers to its twice-a-year changes in pelt coloration; "hare" identifies it as a member of the genus *Lepus*, related to rabbits but differing in several important ways; and "snowshoe" aptly describes the animal's huge, furry hind feet which bear it easily over deep snow.

Biology

Although closely related to the more abundant cottontail, the snowshoe is not a true rabbit. A hare's digestive tract differs structurally from that of a rabbit, and newborn hares are precocial (fairly well developed) in contrast to the hairless, blind cottontail young.

Adult snowshoes are about 19 inches in length and weigh 3-5 pounds, males generally 10 percent heavier than females. Body configuration is similar to the cottontail's, although the snowshoe has longer ears, larger feet and a rangier build. In summer, a snowshoe is brown—in winter, white.

In the brown phase, its fur is gray-brown, darker on the rump and down the middle of the back, the throat buffy and the tail dark brown above and white beneath. In autumn, the brown hairs gradually fall out and white hairs replace them. This moult is irregular and may occur in patchwork fashion, but it usually begins on the feet and ears and works upward and toward the rear until the entire pelt is white (except the ear tips, which stay black). A complete change takes about 10 weeks. In spring, another moult occurs; this time, brown hairs replace white, starting with the head and back and end-

ing with the ears and feet by late spring.

Individual hairs of the white winter fur are longer and thicker to provide better insulation than those of the summer coat. The base of each white hair is slate-colored. The varying hare is one of four Pennsylvania mammals to turn white in winter; the others are three weasel species.

Cold temperatures and ground color have nothing to do with the pelt's color change. It results totally from phototropism—in other words, it depends on light. As days get shorter in fall, for instance, a hare's eye receives light for shorter and shorter periods; this stimulates the pituitary gland, located at the base of the brain. During moult, the pituitary shuts off pigment production in the new fur, which therefore grows in white. In spring, lengthening days trigger the reverse of this process.

Snowshoes have excellent hearing and big ears to catch sounds. Eyes are located on the sides of the skull, providing limited depth perception but covering a wide field of view. A hare may stand erect on its hind legs to see or hear better.

Should a predator threaten, a hare can burst out of a relaxed, sitting position into a dead run. It can attain speeds up to 30 miles an hour over ground or snow, leap 10 feet in one bound, dodge with agility and swim if forced into water. A hare circles like a cottontail when chased—although making a larger circle—as it's reluctant to leave its home range. A Wisconsin biologist once tracked a hare in snow for over an hour; despite continuous, noisy pursuit, the animal stayed within about 10 acres. Unlike cottontails, hares rarely hole up when running before hounds.

A snowshoe's four toes are large and positioned wide apart. The bottoms of the toes and the soles of the big feet are covered with coarse hair that grows long in winter, making "snowshoes" that support the hare in deep snow and give it traction on icy crusts.

A hare's home range may be 5-30 acres, depending on density of food and cover. Some individuals probably spend months without moving 100 yards from one central location. Hares do not build nests or dens, although they may shelter from hard rain or snow in a hollow log or rock crevice. Primarily nocturnal, they feed at dusk, night or in early morning.

During the day, a hare stays in a "form"—a small depression in the leaf litter or ground, either natural or made by the weight of the animal's body resting there. A form is often on a slight rise, providing drainage to keep the bed dry and allowing the occupant to see its surroundings. For protection from predators, a hare locates its form under overhanging branches, in a clump of shrubs or tall weeds, or at the base of a tree or stump. A hare may have several forms within its territory but will use one most of the time. While resting, it sits with head, neck and body drawn together compactly and

ITS COMPARATIVELY large feet give the varying hare its common name of "snowshoe rabbit"; they give support in soft snow, traction on ice.



all four feet gathered beneath it. Ears may be erect or laid back on the neck and shoulders.

In summer, snowshoes eat green vegetation, including leaves, clover, jewelweed, dandelions and tender buds, and the growing twigs of low woody plants. After frosts kill herbaceous growth, hares may feed on the dried remains until these are used up or snow-covered. However, snowshoes depend mainly on woody plants for winter food, eating twigs and bark as high as they can reach by standing on their hind legs. Deep snow actually helps hares get food by making a platform that lets them reach higher food sources. They feed on aspens, willows, birch, alders, maples and blackberry canes. They eat bark twigs and often the needles of conifers—firs, cedars, pines, spruces and hemlock.

Except in breeding season, snowshoes aren't strongly territorial. Many may feed in the same general feeding area. Through habit and convenience they use a network of trails and runways, which become conspicuous in the snow; on a small scale, this network resembles a deer yard.

Courtship begins in early March when males (also called bucks) fight furiously for females (does), kicking each other with their powerful hind feet. The females become receptive later in the month. Both sexes are promiscuous.

One to six young (usually 2-3) are born after a 36-day gestation period. The mother does not build a nest and gives birth while sitting in her form or wherever she happens to be. Young are delivered within a half hour and start to nurse almost immediately. After the initial feeding the mother nurses the young mainly at night and remains a short distance away during the day.

Young hares are called "leverets." They weigh $2\frac{1}{2}$ ounces at birth, their eyes are open and they're capable of walking and hopping soon after they are dry. Their fine brown fur blends with the surroundings. Young start

ating green vegetation when a week to 10 days old and usually are weaned and on their own at six or even weeks of age.

Snowshoes are not as prolific as cottontails. Female hares have two or three litters each year—cottontails bear an average of four litters; hares average three young per litter—cottontails commonly have five; and young of hares do not mate until a year old—juvenile cottontail females born in early spring are sexually mature and may breed by late summer of the same year.

Hares have potential lifespans of eight or nine years, but only an estimated 30 percent live one year and perhaps 15 percent reach age two. Snowshoes fall to hunters, disease, parasites and predators; species which prey on snowshoes include foxes, bobcats, weasels and some hawks and owls.

Population

As with many Pennsylvania small game species, habitat change has caused varying hare populations to decline in recent years. After the early total logging of our state's forests in the late 1800s and early 1900s, brushy growth and saplings provided perfect hare habitat and the population boomed. Today, maturing forests and a large number of deer—which compete for many of the same food sources—combine to restrict the snowshoe population.

Canada and Alaska are present strongholds of the varying hare. Its range extends into northeastern U.S. in mountainous areas as far south as Virginia, and south in the Rockies to central New Mexico. In our state, hares are found in parts of the Allegheny Mountains, high plateaus in the northwest and the Pocono region. As Pennsylvania is the southernmost part of the species' eastern range, the varying hare is not abundant in our state; even if habitat were excellent, it's unlikely that snowshoes would become as abundant here as they are in New England and Canada.



SNOWSHOES have big ears for excellent hearing and eyes located on sides of skull to give wide field of view—good survival attributes.

In the far north, hare populations fluctuate dramatically. At times, snowshoes become super-abundant, with as many as 500-1000 individuals per square mile in primary range. Then the population goes down rapidly for 3-5 years, hits bottom and starts to climb gradually toward another peak. Peaks occur about nine years apart. When hares are abundant for several years, predators increase. Should hares decline over a large area, goshawks and snowy owls range much farther south, while land predators starve or go hungry. Hare population cycles are not fully explained; the actual decline in numbers may result from disease or parasitism from tapeworms, lungworms, ticks, fleas, etc.

Pennsylvania's varying hare population is fairly consistent from year to year. Currently, the Game Commission releases snowshoes on forest cuttings made for this species to try to increase its numbers.

Habitat

Snowshoes inhabit mixed deciduous forests with conifers and escape cover such as rhododendron and mountain laurel. They favor younger brushy areas, those logged or burned 7-10 years ago. Hares also live in swamps where cedar, spruce or tamarack grow. Dense stands of aspen or pop-

lar, interspersed with pines, may support hares. In Pennsylvania, high country such as ridgetops, mountains, high swamps and plateaus harbor most hares. Game Commission attempts to introduce hares on areas under 1000 feet elevation have been unsuccessful.

As do cottontail rabbits, snowshoes move into forest land opened up by fires, high winds, ice storms and clear-cutting. While cottontails build up good populations in clearcut areas in one or two years, snowshoes—with a lower reproductive rate and different food and cover requirements—need up to seven years to take hold. Hares stocked in a fresh clearcut won't stay; apparently, instinctive fear of airborne predators makes them move.

Reducing the deer herd through hunting may be the most practical local measure to improve habitat. In winter, deer eat twigs and buds, the same browse items as snowshoes. When deer overpopulate an area—as they've done across much of Pennsylvania's snowshoe hare range—they may severely browse back winter food and cover necessary for snowshoe survival.

In addition to deer management browse cutting can help snowshoes by bringing edible twigs within reach and encouraging the growth of shrubs sprouts and seedlings. Planting conifers, particularly spruce, and cutting tall trees to keep them from shading out mountain laurel and shrubs will provide good cover.

Notes on "Wildlife Notes"

In an effort to educate the public—hunters, farmers, students, teachers, amateur naturalists . . . in short, anyone interested in wildlife and nature—the Game Commission is producing a series of Wildlife Notes. Each note features one Pennsylvania wildlife species, or a group of closely related species such as the gray, fox, red and flying squirrels.

Wildlife Notes are divided into three areas of information. **Biology** covers facts pertinent to the biology of the individual—things like size, weight, coloration, gestation period or egg-laying habits, senses and food preferences. **Population** deals with numbers; relative abundance or scarcity, fluctuations and dispersal of young. **Habitat** outlines those places and conditions where the species is most apt to prosper and in some cases gives habitat management tips.

"The Varying Hare" is the seventh Wildlife Note completed. Others feature the squirrels, ruffed grouse, bobcat, cottontail rabbit, red and

gray foxes, and the woodchuck. A note on owls found in our state is nearing completion. These Wildlife Notes are available free from the Division of Information and Education, Pennsylvania Game Commission, P.O. Box 1567, Harrisburg Pa. 17120. We intend to run them as articles as space is available in GAME NEWS. Game and nongame species alike—birds and mammals prey and predators—will be covered. Nature's web, which encompasses all of these, is truly fascinating and worth learning about.

Chuck Fergus, familiar to readers as staff writer for the GAME NEWS is producing the series. Fergus works in the Commission's Information and Education office in Harrisburg. Doug Pifer has done the artwork for all of the Wildlife Notes so far produced. A native of Butler County and illustrator of numerous GAME NEWS articles, Pifer is presently employed as an illustrator and writer for the National Rifle Association in Washington, D.C.

String-and-Stick Spike

By Shirley Grenoble

KER-ZING! The arrow sailed straight and true—and six inches over his back! I stood entwined in the boughs of a spruce and fought to regain my composure. The fork-horn had stepped out into the little field just where I knew he would.

I was assailed with all the classic symptoms—pounding heart and shaking hands. When he put his head down for a mouthful of grass, I quickly drew and released the arrow. And missed! Again! This was the second buck I had missed from this very spot this year, and a perfect spot it was.

This was my favorite place in all the outdoors. It's a small clearing, about a half-acre in size, thick with grass and clover and hidden away in the midst of the forest. To the east of the clearing, about 500 yards through the woods, is an old, overgrown apple orchard. This locale was a thriving mining settlement at the turn of the century, but it has long since been abandoned. It's located about 15 miles south of Towanda in the Barclay Mountain Range. Now neglected apple trees and a few crumbling foundations and old wells bear silent testimony to the people who once lived here.

Before the season began, I spent much time scouting. I knew which trees in the orchard were the deer's favorites and which trails they would use to approach them. I also knew which entrance into the field they would most likely use. Every time I came here hunting I faced the same question—should I take a stand by the field or in the orchard?

One factor which added a keen edge of excitement to making this decision was the fact that on some evenings deer congregated in the field,

while on other evenings they totally ignored it and fed only in the orchard. So far I hadn't been very successful in figuring out when they would be where. So usually I just let the wind direction decide where I would take my stand.

Well, I'd picked the right spot tonight, that was for sure. Seeing that nice buck and getting off a shot was exhilarating, but missing was very frustrating. One thing was for sure—shooting conditions at home and in the field were two different things. I thought if I could just find some way to get my heart to race, my breath to stop and my arms to shake while I was practicing in the back yard, well, maybe I could lick the problem.

Archery Madness

It was a hike of over a mile out to my Scout. On the way, I reflected on how this archery madness had gotten such a hold on me.

It was mainly through the influence of two good friends, Jim and Bernadean Waltman, who live near Sayre. Jim works at the Sylvania plant in Towanda. He has taken several deer with bow and arrow, and his and Bernadean's enthusiasm for the sport finally infected me. So when they set up their target and began practicing in the summer of 1970, I succumbed to the challenge.

"Oh, no!" groaned my long-suffering husband Ken when I broke the news to him, "Do you have any idea what you're getting into?"

Really, what he meant was—did I have any idea what I was getting *him* into? Though we share an unquenchable passion for hunting, he had not yet expressed any interest in archery. But he foresaw that my interest would mean he would have to tote the hay

to the backyard for a target, help me select a bow and arrows (not to mention help me pay for them), sharpen broadheads and be a sounding board for the endless tales that invariably accompany any undertaking of mine.

My first step was to go to our local archery experts for aid. Carlton and Betty Wanzo have won many awards and trophies locally for their prowess on the archery range. Their daughter, Cindy, has won the State and Mid-Atlantic championships in the Youth Division. They operate a small archery equipment shop from their home in Windham Center, about ten miles east of Sayre. I trusted their advice and followed it. I came away equipped with a Ben Pearson Deer-slayer bow, 35-lb. draw weight, and 27-inch target and hunting arrows.

When the 1970 season opened, I'd done so much scouting that I felt I knew every deer in the area personally. In my naivete, I was confident that getting a buck with a bow would be fairly easy. Yes, I was of the mind of many when they first take up archery. Bow season was sort of an "extra season." I'd shoot only a buck. Nothing against does (I'd sent for my antlerless license), but I didn't want to "ruin" my deer season by shooting a doe. Boy, did I have a lot to learn!

Not So Easy

On my way home from this hunt, after reflecting on my second miss, it began to dawn on me that it wasn't going to be so easy after all. On my scouting trips it seemed that deer were parading all around, but with the advent of the season, they didn't seem so prone to do so. I hunted three times a week for the rest of the season but never got another shot. That same fall I killed a nice spike buck with my trusty 308 Winchester on the first day of rifle season.

When the 1971 bow season opened I was ready for it. Boy, was I ready! I'd done my practicing and scouting, and my optimism was at fever pitch. I discovered later that the neighbors

were getting a real bang out of the whole situation. Ken sharpened my arrows for me and even bought me a camouflage suit for my birthday. He told me, "If you get one, get to a phone and call me and I'll come down and drag it in for you."

Opening day passed with no action. The following Tuesday, Jim and Bernadean Waltman and I went to Barclay together. Jim went to the orchard and Bernadean and I took stands at opposite ends of the field. Spruce trees almost completely encircle the field, affording natural blinds.

About 4:45 a doe and a 5-point entered the field. They turned toward Bernadean's stand and I expected to see an arrow flying any minute. But when the buck was about 30 yards from her hideout, he suddenly jerked his head up, cocked his ears forward and stared straight at her blind. The jig is up! I thought. But he hadn't winded her; he just seemed aware that something was amiss at that spruce tree. Then he launched into a performance as comical as anything I've ever seen.

The buck took a couple stiff-legged steps, stomped the ground, and then stuck his nose up to test the wind. Then he put his head down as if for a bite of grass and then jerked it back up quickly to see if he'd managed to bluff anything into moving. He snorted and pranced, all the while edging closer and closer to Bernadean's stand.

I was so absorbed in it all that I was caught flat-footed when a spike buck walked right up behind my stand. He stopped about 20 yards behind me and stood watching the other two deer. I was able to slowly pivot and face the spike, which was still behind me but slightly to my right. I raised my bow to shooting position at a painfully slow pace and held it there. I feared that whenever Bernadean shot at the 5-point, the twang of the bowstring would spook the spike. But I felt that Bernadean was entitled to the first shot. So I waited. The spike was so entranced

with the drama in the field that he never noticed me.

Finally, in desperation and with the deer not 15 yards away, Bernadean quickly raised her bow and shot. A clean miss! The doe and 5-point just sauntered away, not too upset over the whole thing. But just as I'd feared, the spike bolted and I never got off a shot.

Bernadean and I stayed in our stands until we saw Jim coming up the trail from the orchard. Then we rushed over to meet him and both began babbling at once!

Take Turns Talking

"Hold it!" Jim said, "We'll have to take turns talking. Bernadean, you go first." After she recounted her adventure, it was my turn. Bernadean hadn't realized I'd been having my own private party at my end of the field. Then Jim revealed that he, too, had missed a deer. We talked all the way back to the Scout. What an exciting evening it had been!

In the local coffee shop the next day, I was recounting the previous night's episode to some fellow hunters. One of them remarked, "Just think, if you got that spike with your string and stick, you'd have spoiled your deer season."

Once I would have agreed, but now wasn't so sure. Even though I've been afield every hunting season for the past twenty years and have bagged many deer, I felt that the previous evening I had learned a little more about what it really means to go hunting.

The remainder of that season passed uneventfully. Though I often saw deer, none of them ventured close enough for me to get off a shot.

On the first day of the '71 rifle season I was walking to a stand to await the drive. A 3-point came bounding along. It took three shots, but I downed him with the 308. While Ken was on his way over, I couldn't help doing some thinking. I hadn't really hunted for this deer—we'd just blundered into each other. I thought



SHIRLEY GRENOBLE, her spike buck and the archery rig she took him with. Before success, she learned that seeing deer was easy, getting one something else.

about the challenge of trying to outwit that deer that exciting afternoon in bow season. And about how just getting a lucky buck didn't quite stack up against taking one you felt you've earned.

(There was an interesting sidelight to this deer, though. When we skinned him we found that the bullet hadn't exited but was lodged against the hide. Jim bored a hole through it and I put it on a chain and now wear it as a necklace. It makes an interesting conversation piece. I'm wearing it in the accompanying picture.)

When the '72 bow season opened, I felt confident. I no longer considered archery season as some extra plum to enjoy while I waited for the "real" deer season. I would put hours and days into preparing for this season, and I'd savor every minute. As far as I was concerned, this *was* deer season. I would hunt hard and do my best and be proud to take either buck or doe with my bow.

My pre-season scouting had shown

there was one tree in the orchard that several deer favored: a 6-point, his lady friend, and a small spike. A few yards from this tree two pines grew side by side, close enough that their branches intertwined. By hunkering in there just right, I could back up against the trunk of one tree and yet have a clear space in which to draw.

Let Spike Leave

Though I saw nothing from this blind on the first day, I decided to go back again Monday. I was in the blind by 3:30. The spike came in and walked directly to the apple tree. Just as I was about to draw, I spotted the 6-point and two does about 75 yards away, feeding at another apple tree. So I relaxed, hoping the bigger buck would wander over to my tree. I let the spike walk away. But the other three deer drifted off in another direction and disappeared. I kicked myself mentally for allowing the spike to get away like that. "Wait until tomorrow," I vowed.

Tuesday the spike didn't make a beeline for my tree. Instead, he fed at a nearby tree and then circled behind my blind. He caught a whiff of me and sailed into the woods. The 6-point never showed up at all. "Probably out in the field," I told myself.

Wednesday afternoon it would have taken an act of Congress to keep me home. I waited an hour and 15 minutes before I spied movement. The spike was coming straight down a little trail to my tree. Almost simultaneously, I spotted movement to my left. The 6-point and doe were making their way toward my tree, too. The spike arrived first and began munching apples. Again I gave in to my greed and elected to wait for the 6-point. But he stopped short about 10 yards from my tree, at an angle where I couldn't get off a shot. Then a breeze betrayed me and the doe snorted, and all three took off!

I muttered to myself about this whole dumb situation all the way back to the Scout. Twice now I'd passed up the spike to try for the 6-point. I resolved before I got back to the car that tomorrow night would be different. If I got another chance, I'd take it, no matter which deer it was.

Thursday I was in the blind by 4 o'clock. A half-hour later I spotted the spike coming down the trail. He never hesitated, just came directly in. By the time he arrived, my bow was up. When he put his head down for an apple, I began my draw. He detected my movement and turned to stare. I froze. His tail began to lift, and I knew it was now or never. At the instant I released the arrow, the deer jumped. The arrow caught him high and a little farther back than I wanted. He ran off, obviously hard-hit.

I paced the distance from the blind to the tree—12 steps. His trail was easy to follow. I took it immediately, feeling certain he wouldn't be able to go far, and found him about 40 yards away. I'd gotten him! I'd actually gotten a deer with my bow. My knees started to shake and I had to sit down on the ground to regain my composure.

A Mile's Hike

After I cleaned and tagged him, I dragged him a few yards to a pine tree and left him under the low branches. Then I hiked the mile to my Scout, drove to Towanda, called Ken, and drove back. I had time to think about all that had happened to bring me to this moment. Persistence and planning—that was my part; a generous sprinkling of luck—that was nature's part. I was thankful for both.

When Ken arrived, he had Jim with him and they made quick work of getting the deer to the Scout. Ken was as proud as I was. It had been a marvelous deer season!



BILL'S BLACK POWDER SPIKE

By Bill Johnjulia

"CLICK! Nothing. *Click!* Nothing. *Click!* Nothing. Why hadn't the charge ignited? Was the flint wet? These and other questions raced through our minds as we watched the doe, which had been bedded down approximately 40 yards away, stand up and slowly walk away from its bed, rudely awakened by the clicking of a flintlock that hadn't ignited.

It was December 26, 1974, the first day of Pennsylvania's first muzzle-loader season for deer. It was also my son Bill's first deer hunt. He had turned 12 in August, had completed the required Hunter Education course during the early fall, and now was champing at the bit, hoping to put some venison in the larder.

It was a cold morning and the snow was crunchy, which made it difficult to get close to your game. We had decided to walk straight to our favorite rock. We would spend the first three hours of this new season there, hoping one of the deer seen during the rifle season would pass this spot again, giving Bill a chance to score with his flintlock.

We sat patiently, watching the woods get lighter and hoping to hear that old familiar crunch in the snow. For the first two hours the woods seemed devoid of life. We saw nothing during this period. We decided to push deeper into the woods, back to a bulldozed trail that runs parallel with the Allegheny River. Our new destination was the backside of a hollow where the slashings had always provided good cover for deer in the past.

An hour later we were sneaking through the slashings when the snow

in front of us exploded as a doe leaped from her bed and in two graceful bounds slipped into the safety of the slashings. The snow was cold, dry and blowing, and to help keep the powder dry we had taped a plastic "baggy" over the pan and flintlock mechanism. The deer vanished before the baggy could be removed and the hammer cocked.

As we pushed through the slashings we saw two more flags burst out ahead of us and disappear from sight. At this particular spot we were approximately four miles from camp and could not understand why we hadn't seen another hunter.

Change Strategy

It appeared necessary to change our hunting strategy if we were going to be successful that day. The woods were too noisy to sneak up on game on the high flatlands and we couldn't sit and hope that someone would push a deer to us, as we hadn't seen another hunter, nor even a hunter's tracks, since starting the hunt. After having a sandwich and a candy bar, we moved across the top of the ridge and out to a razorback that drops to the river. The adrenaline started to pump as we approached the razorback. Deer often basked in the sun along the east side of this ridge.

Peering down over the side of the mountain, we noticed a brown spot scarcely 40 yards away. Then we saw a flick of movement as the doe's ears moved, perhaps because of a noise we had made. We froze immediately. Bill quickly removed the baggy, cocked the flintlock, and took aim at the doe, which was still in her bed.



TWELVE-YEAR-OLD Bill Johnjulia got his hunting career off to a fine—though aggravating!—start by bagging nice spike buck with a muzzle-loader.

“Steady, pull softly on the trigger and wait for the surprise,” I whispered as he aligned his sights.

Our hearts seemed to drop as we heard the click of the flint hitting the frizzen without the familiar low-rumbled ignition that follows. Bill quickly recocked the mechanism and aimed again at the nervous doe. *Click*. Nothing. At the second click the doe jumped to her feet and was now looking directly at us. Bill cocked the flintlock once more and squeezed the trigger. *Click*. Again nothing. With this, the doe turned, waved her flag and disappeared over the side of the hill. Needless to say, my young Daniel Boone was feeling the same frustrations which occasionally plagued his forefathers as he watched

the game disappear from sight because a spark had failed to drop into the pan.

We continued down the razorback, walking as slowly and as quietly as possible in the crunchy snow. On the backside of the razorback we spotted another brown spot down in the valley, approximately 100 yards away. After watching it for a few minutes a deer moved into the open and we were sure that more excitement was close at hand.

Bill dropped to his knee, cocked the flintlock and rested the back of his hand against a tree. Slowly he squeezed the trigger. *Click*. Nothing. We had never had this many misfires on the range and couldn't understand why it was happening now with game so close at hand.

The Third Time

The third time the gun clicked we heard the familiar *pfsst—boom!* A cloud of smoke roared from the barrel. From my position I could see the doe's flag wave as she waved goodbye. I had forgotten to remind Bill to hold low when shooting downhill, and I felt sure the slug had gone over the deer. A clean miss. Just to be sure, we climbed down the hill to where she had been bedded. There was no sign of a hit. We followed her tracks for approximately 300 yards into the valley, then left them to follow the creek bed out to the river. At the Dunns Eddy area we climbed the steep short hollow, hoping to catch yet another deer in its bed. We put threc out as we made the climb, but Bill was unable to get off a shot. We proceeded down the new razorback to a point where I had shot a buck three years earlier. The balance of the day remained deerless and at about 4:45 we decided to call it a day and head for camp. As we reached a gravel road, we met three other hunters who told us they had been covering the same area during the day. They offered us a ride, which Bill and I gladly accepted as we were approximately 4½ miles from camp.

It sure was great listening to Bill tell Mom the exciting events of the day as we prepared to feast on venison chops from the deer I had bagged in archery season.

The bedroom was filled with light when I threw back the covers in the morning and stared at the clock, wondering why the alarm had not gone off. After careful inspection I found it had gone off and we had slept right through it. The second day of the muzzleloader season was open and we were still in our bedroom. Needless to say, our breakfast on this morning did not consist of bacon and eggs, but rather a quick bowl of cereal and a glass of orange juice.

The night before we had decided to hunt the steep ridges along the river rather than the high grounds we'd covered the first day. We drove to the Dunns Eddy area, parked the car and started the long climb up the razorback. Approximately two-thirds of the way up the mountain we came to my favorite rock and decided to take a break. Both of us were perspiring from our heavy clothing and the steep climb. After cooling down, we proceeded to sneak up the razorback at a much slower pace, carefully picking each step. We had gone approximately 100 yards from our stand when Bill stopped and whispered, "Dad, Dad, a deer . . . I see a deer!"

The deer was approximately 80 yards below us, browsing along the side of the mountain and was not aware of our presence. Bill leaned against the tree, cocked the flintlock and took careful aim. After what seemed like an eternity, there was a click, then nothing. The deer was far enough away that it did not hear anything, and continued to browse. When Bill pulled the hammer back, I noticed that the frizzen had not been returned to the down position. I reached over his shoulder, pulled down the frizzen and give his flint a little twist. I whispered into Bill's ear as he took aim, "Make sure you squeeze softly."

Click—pfsst—boom! Through the

cloud of smoke I saw the deer sway and exclaimed, "Bill, you hit him!" The first words out of his mouth were, "All right!" The deer went about five yards before it toppled to the ground. It then slid approximately 10 yards down the hill until it hit a tree. I turned to Bill and said, "Let's go clean your deer." At that point he informed me that we weren't moving until we reloaded the 45-caliber flintlock. It seemed to take an eternity to load the gun, but finally we proceeded down the hill to the deer.

"It's a Buck!"

"Dad, it's a buck—I got my first deer with a muzzleloader and it's a buck!"

I'm not sure whose heart was filled with the most happiness at this moment. We gave each other a hug and did a war dance in the woods. Had anyone been watching at that moment, he would have thought this hunter and his boy had gone off the deep end!

We dragged the deer to a level spot and proceeded with our field-dressing. At this point Bill reached for his new knife that had been given to him the preceding Christmas. His blank look told me that the bump which had been under his coat during four days of archery season and five days of the rifle season was not there this morning. In our haste to leave this morning, the knife had been left at camp. A trace of a smile came back to Bill's lips as his hand produced a pocketknife sporting a very dull 1½-inch blade. With it we managed a quick field-dressing job which we'd improve upon when the deer was back at camp. After tagging the deer, we dropped down the steep slope to the gravel road where the car was parked. The deer passed Bill several times on the sharp descent to the road.

Needless to say, Mom's heart was filled with happies too, when she saw Bill's deer on the back of the car. Its 3½-inch spikes now hang in our den and will long remind us of Pennsylvania's first muzzleloader deer season and our boy Bill's black powder spike!



AS WILL REACHED INTO THE SNOW for the hoagie he'd dropped, seven twitching-tailed, nervous-nosed beauties appeared around him!

Four Generations of Mountain

By Will Ketner

THE MOUNTAIN had not changed. It would never change. The coal hearth had more undergrowth and the gum tree had lost a few dead branches, but Tussey Mountain resisted any test of its strength and durability.

The coal hearth had been scooped in the mountainside many decades ago by prospectors looking for iron ore and coal. Tussey Mountain was dimpled with such scars, and most had now become favorite lookouts in deer season. The mountain had yielded briefly to diggers, hikers, and hunters, but it still held firmly to its task of holding part of Blair County on one side, part of Bedford County on another, and watching over Henrietta and Morrison Cove. The four seasons changed its complexion every year, but never its character.

I watched my son Will kick away

the snow, wiggle a seat for himself on the same rock, against the same tree, on the same coal hearth that had brought success to generations of hunters in my family. It was then that I realized why this mountain and this first day of buck season meant so much to me, and to other hunters like me. All the preparation was funneled into this moment. The license, the ammo, sighting in the rifle, new laces for the boots, packing the lunches, the endless conversation, the sleepless night before, the huffing and puffing up the mountainside, and the nervous moments before daylight when everything takes shape on that first morning.

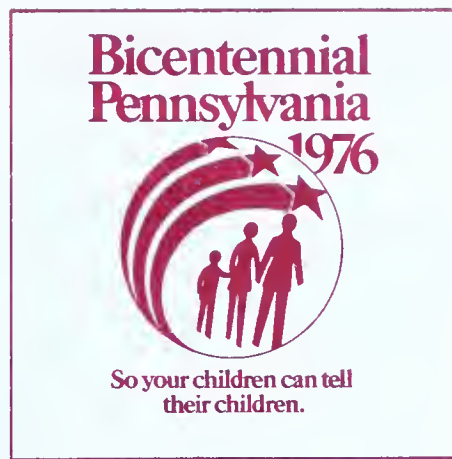
It seemed like only yesterday or last week or last season that I was watching Grandpap, with his 44-40, settle on that same coal hearth. Or my own father when he inherited the terri-

torial rights to the "stump." And my own admission ticket to the magic lookout with my 300 Savage. And I'm sure even the whitetails understood the lump in my throat as I watched an eager boy get set for that exciting day in his life.

Some of the accessories had changed. The boy wore blaze orange; in my day it was Woolrich red, while Dad had black-and-red plaid and Grandpap just a sheepskin mackinaw. Maybe lunch had changed from bologna sandwich to candy bar, canned pudding and a hoagie. The scrub oak around the hearth was heavier, the laurel thicker, and more hunters found their way up Tussey than in other generations. But the gum tree, the rocks, the soft snow, and even the whitetails were reliable in their consistency. The mountain would not change, nor would it be controlled. It was the master of us all, and had been through four generations. It was really the father of many generations of hunters.

Whose Side?

It was responsible for the thrill of daylight creeping through the woods, teasing the straining eyes of the young hunter searching for the buck that would allow him to shock the still air with the first shot of the new season. It helped build tension as the hunter watched a deer flirt quickly between the trees, disappear and reappear and then vanish. It had caused arms with uplifted rifles to tire, it had amplified the click of the hammer or the crunch of a rock. It seemed to turn a spotlight on the hunter who dared move his head or even his eyes when a bold doe challenged the quivering human with a head-on stare. If the mountain would listen, the hunter might shout his question as to whose side old Tussey was on, the hunter's or the deer's? But the mountain knew the score, he had played the game many times, and he played no favorites. He tested both the hunter and the hunted, and made them earn their right to play on his slopes.



Grandpap had killed his share of bucks in the days when you might see one deer a week. Dad had brought home a handsome 9-point that seemed to declare his independence even as the mounted head looked over the living room at home. He was still the boss. My own harvest from that hearth had been more than I had a right to expect, and when it almost seemed a sure thing that my buck was tagged the first day, I had my confidence punctured with a long period of shutouts. It was Big Daddy, the mountain, conspiring with himself and the whitetail buck, teaching me the same lesson that many others had learned—that when the visitor tries to take over, the host puts his foot down.

And as I watched my son try to pry a buck from the imaginary herd of dozens lurking in the bushes, I realized that the real joy in hunting was not always the moment of victory. It had to be the combination of personal discipline, the challenge of weather, nerves, physical durability, skill, luck, and the unknown quantities thrown in by the mountain and the deer. I wanted him so much to taste that delicious experience of at least seeing what it was all about. I wanted to see how he would handle himself in that test of nerves. And I knew that he wanted to show me that, "Shucks, nothing to it," could place him in the Hunter's Hall of Fame.

I knew he would make a hunter.

The year before he had sat nearby and signaled silently that he heard footsteps on the leaves. Then he molded himself against a split tree trunk as five doe passed in single file. Later, when I asked how many he had seen, his reply was "Nine," as any good hunter's would have been.

Now he had earned the family designation as the hunter on the coal hearth. He was going to solo. He had accepted the awesome task of perpetuating the family tradition on that stump, and his place in the family tree depended on his ability to challenge the mountain.

And it happened. But the script was written this year by the mountain, and by the deer. Tussey was going to make this young man earn his seat on the inner circle. That coal hearth was not going by default. The price for the first year was patience.

Will had held his post from daybreak. By 11 o'clock he was struggling with the usual temptations: 1. This isn't such a good spot after all. 2. That place down the mountain is better. 3. More shooting over in that hollow. 4. There aren't as many deer in here this year. 5. This seems a good time to eat lunch.

Only the last thought moved him. He dug the brown bag out of the snow, slowly pulled out the monstrous hoagie and unwrapped it. Then he dropped the hoagie, and as he reached

into the snow for it he froze. Not from the temperature, but from the sudden awareness that the magic mountain had produced from nowhere seven—count them, seven—sleek beauties with big brown eyes, twitching tails and nervous noses. They were all around him, and they were all looking at him. His rifle was behind him as he leaned toward his hoagie in the snow, and he was caught helpless, half crouched, half on bended knee. So this was how it happened. Did the buck walk up now with a bronx cheer and kick snow in his face? Why didn't they wait until after lunch, or come before lunch?

There is no answer to such questions because the deer are under no obligation. This is their backyard, and you are the visitor on the coal hearth. You are the intruder. They conspired with the mountain and this is the test. And then the final indignity; after the pounding heart, the perspiration, the frantic effort to control the nerves—they were all does. Somewhere in the background there might have been a snicker, if a buck can snicker. But the deer were proud, the mountain was proud, and I was proud. We all knew the coal hearth had a new tenant who would wait for his day, and that his day would come. He was a new generation on the mountain, and I'm willing to bet he'll be the best.

GAME NEWS Cover Prints Available

In answer to numerous requests, we can now supply a selection of GAME NEWS covers in a size and format suitable for framing. A set of four covers, all by internationally-acclaimed wildlife artist Ned Smith, now is available. These are full-color prints, enlarged to 9x12 inches on 11x14 heavy, coated paper, without the GAME NEWS logo. The set includes Ned's woodcock from the April 1974 issue; the woodchuck from July 1974; the doves from September 1972, and the buck and doe from the December 1971 issue. These prints are not available individually. The price is \$3 per set, delivered. Make check or money order payable to Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.

Camping in the Cold!

By Steve Blakely



IT'S OFTEN SAID THAT man's best friend is his dog, but when the temperature drops to zero, a dog's best friend is his master—especially when he has a goose-down mummy bag! Right, Goldie?

TO THE dedicated outdoorsman who enters a forest for solitude, peace and quiet, the warm months of the year present two highly irritating and unavoidable pests: insects and people. Fortunately, most insects and people are unable or unwilling to tolerate cold weather for very long, which leaves the serious (some would say crazy) outdoor enthusiast with one season that's perfect for unmolested camping—winter.

One weekend in early January when we figured the two major forest pests would be frozen out, my friend Chuck Fergus, his beagle Goldie and I set out on a two-day winter backpacking trip. We chose Centre County's Little Sugar Valley, a tract of state forest land on Nittany Mountain, north of Rt. 192 near Penn's Cave. This was Goldie's first camping trip, but both Chuck and I are veteran backpackers who enjoy hiking back into unspoiled,

uninhabited territory to get a rest from "civilization." To us, putting up with cold weather is a fair trade-off for having an entire valley of thick, wild Pennsylvania forest to ourselves.

We had obtained a permit from the district state forest office in Renovo to camp in the area, so with that and the camping equipment we owned or borrowed we had all the necessities to safely weather two days of freezing temperatures. The night before leaving we had tuned in one of the thorough and usually reliable weather forecasts aired over public television, so we were reasonably sure that the weather would hold for our trip.

A couple heavy snow storms had hit Centre County earlier in the winter, but the snow had pretty much melted off by the time we left on our trip. The state forest road, though rough and icy, was open from the southern side of the mountain all the

way into Little Sugar Valley, where we parked the car in a turn-out. As we shouldered our packs and entered the woods, we knew the only thing we'd have to worry about was the temperature range—no lower than zero, but probably no higher than 25° F.

However, there were some unexpected surprises. Although the temperature never rose above 25° the two days we were out, the valley floor remained extremely wet from earlier melted snows and rain. Tire ruts in a jeep trail we followed into the valley had become two parallel streams from the melt-off, and much of the hike was through mud and icy flowing water.

We solved this problem by wearing heavy-duty, waterproof and insulated hiking boots. Without them, our feet would have certainly become soaked and chilled, which would have turned the trip into a miserable and possibly dangerous endurance test. Unfortunately, that's almost what it became at times for Goldie. Her stubby beagle legs became drenched after the first five minutes on the trail, and at

one point she even slipped on a stream bank and took a complete dunking in the icy mountain water. Beagles are tough little dogs, but it wasn't too surprising that Goldie spent much of the trip shivering.

As it turned out, the dog was the only one who did much shivering. Both Chuck and I had dressed in thermal underwear with heavy wool outer garments and goose down parkas, which we have found to be one of the warmest clothing combinations possible. In fact, it can be too warm. Hiking in the woods—especially with a backpack—takes a fair amount of exertion, which can make you sweat even in the coldest weather. As hunters know all too well, clothes that get sweat-soaked during a drive become cold, clammy and uncomfortable when on post, especially in sub-freezing temperatures.

To avoid the danger of over-dressing in cold weather, I usually wear one or two button-down shirts under my parka, so I can peel off or open the clothing layer by layer, depending on how hot I get during the hike. For less strenuous hiking or knocking about camp, I carry an extra T-shirt and heavy wool sweater in the pack. Preserving body heat is the key to staying comfortable in cold weather, and this system effectively keeps me cool during a hike and warm when at rest.

Food could have become another problem if the trip hadn't been well-planned. We had hoped to bag a squirrel or two for the dinner pot as we hiked in, and for this purpose Chuck had brought along his "perfect" squirrel rifle—a Savage-Anschutz 22, mounted with a 4x scope. He uses nothing but target ammunition in the rifle, and although he claims he's a crack shot with it, the squirrels never gave him a chance to display his accuracy. The weather was just too cold for them to be out.

Anticipating this, we had brought along all the fixings for a venison stew, compliments of a doe Chuck had bagged during antlerless deer season.



STEVE BLAKELY dips water from Roaring Run, to prepare a freeze-dried meal. This lightweight food makes extended trips possible for backpackers.

We made camp late in the afternoon on a little island cut out of the forest floor by Roaring Run, and using a single-burner backpacking stove started browning the meat and cooking the vegetables. Within two hours (which gave us time for a little more hunting, just in case), we sat down to one of the tastiest, thickest and most filling stews either of us had ever eaten—in or out of the woods.

Unfortunately, Goldie once again had a problem. The remains of the dinner were in the bottom of a deep pot, and it just wasn't possible for her to finish off the stew without getting her long beagle ears messy from the sides of the pot. Maybe it was because this was her first camping trip, but despite her hunger, the dog was just too polite to eat her meal with dirty ears. The stew never did get finished.

Our Biggest Problem

Probably our biggest problem on the trip was lighting a campfire after dinner, as all available wood was frozen. Kindling, once fired, would sputter as the frozen moisture in it began to melt. Larger dead wood from the forest floor also proved to be quite damp once it began to thaw out. But with patience and care (and by using only dead wood), we finally built a small but self-sufficient campfire that burned far into the cold, clear night. After the fire was going, Chuck repeated a wise old Indian saying for my benefit: "Red man builds small fire and keeps warm; white man builds big fire and keeps warm hauling wood." Unfortunately for me, there was some Yankee shrewdness mixed in, because he didn't bother to voice this wisdom until after I'd hauled in more than enough wood for the fire.

The least of our problems was sleeping, mainly because Chuck had managed to borrow two mummy-style goose down sleeping bags from friends. This kind of bag is designed specifically for winter camping and in warmer temperatures is too hot to



CHUCK FERGUS hoped his Savage-Anschutz rifle would provide some meals of fried squirrel, but the weather was too cold for the bushytails.

sleep in; but when the mercury starts to fall, there's nothing in the world warmer or cozier than a good down bag. Although the bag was ice-cold when I crawled in, within ten minutes even my feet—which had been chilly most of the day—were completely warm and dry.

Certain tricks make for comfortable sleeping in a mummy. In cold weather camping, it's especially important to have some kind of insulation between the bag and the ground. A number of lightweight, inexpensive foam-rubber pads are available for this. Closed-cell pads are better insulators than the thicker, open-cell "comfort" pads. You shouldn't have to wear all your clothes to bed; if the bag is good, underwear is all that's necessary for comfort. A candy bar eaten just after you've crawled in the sack seems to charge your metabolism and warm you up. So do a few isometric exercises easily performed in the bag. Lastly, you should pitch your tent on smooth, level ground, which always makes for a comfortable bed. Since we had met these basic requirements, we were able to sleep deeply and in



A BACKPACKER'S stove is fine for cooking, but doesn't have the appeal of a campfire when darkness falls on a cold winter night.

exquisite comfort despite temperatures which fell close to zero.

Once more, however, poor old Goldie had a rough time of it. Chuck had zipped the dog up in his own jacket before sacking out, but sometime during the middle of the night she got out and couldn't find her way back in. When she finally got too cold for good manners, the shivering beagle crawled up to the front of the tent, stuck her freezing little nose into Chuck's face, and after suffering through a few unkind words spent the rest of the night snugly tucked away inside the sleeping bag with him. Long after we got up the next morn-

ing, Goldie kept trying to get into the tent and crawl back in the bag.

We spent most of the second day exploring the picturesque banks and marshy clearings of Roaring Run. Although we never saw any squirrels, there was other wildlife in the woods. Marsh hawks, bluejays, nuthatches, chickadees and woodpeckers were among the hardier year-round birds that showed themselves. Tracks in patches of snow told us turkeys and deer also lived in the valley. Much to Goldie's disappointment, the forest floor was too clean of underbrush to support any rabbits.

In the afternoon we rolled up the tent, re-packed our backpacks and followed the stream back to the state forest road. As we came up to the car, Goldie the shivering beagle finally hit a hot scent; it was the first time I ever saw a dog that looked like it was ready to buy an automobile.

Although Goldie's opinion may have been different, both Chuck and I greatly enjoyed the two-day trip. The woods have an entirely different atmosphere during winter, and to careful and serious outdoorsmen they have just as much to offer (and in some ways even more) as they do in the warmer months of the year. Admittedly, Mother Nature is far less tolerant of mistakes in the wintertime, but if done with proper equipment and some common sense, cold-weather camping is quite safe. With Pennsylvania's abundant state-owned forests, winter camping remains a unique and enjoyable outdoor activity. After all, what other time of year are you guaranteed of having the woods entirely to yourself, without people to bug you or bugs to bite you?

But It Keeps Them Warm

The legs of the penguin are enclosed in the skin of the body thus making their walk slow and clumsy.



PGC EXECUTIVE DIRECTOR Glenn Bowers, back to camera, talks with Pennsylvania Federation of Sportsmen's game committee during fall meeting.

P.G.C. Annual Report

July 1, 1974 — June 30, 1975

EXECUTIVE OFFICE

In dealing with its many publics, the Pennsylvania Game Commission's first concern is the welfare of the Commonwealth's wildlife resources and the environment that supports them.

By implementing Commission policy and guiding and coordinating the activities of five administrative divisions, the Director and his Deputy attempt to apply management in its broadest sense, providing protection when necessary, affording recreational opportunities when possible and controlling when the need is demonstrated.

Only through the application of this kind of flexible wildlife management can the future of those living and sometimes fragile resources be assured.

COMPTROLLER'S OFFICE

This Division continues to maintain through its normal operations the overall responsibilities and functions of receipt and disbursement of funds, providing cost accounting and financial reports, and offering financial guidance to the Commission for management and budgetary purposes.

Some of the accomplishments of this office during the past fiscal year were (1) the development of internal auditing for more stringent reviews and interpretations of rules and regulations, as warranted by today's economic conditions; (2) constant attempts being made to improve processing of revenue from licenses, permits, and subscriptions by pursuing methods of automation; (3) provisions made by our Payroll Section in updating payroll records to comply with the passage of Act 195, Law Enforcement contracts, and bargaining union agreements; and (4) more implementation of data to meet Federal requirements for reimbursement purposes.

Game Commission accounting records are audited annually by the staff of the Auditor General promptly after the close of the fiscal year. The U.S. Department of Interior and the Office of Emergency Preparedness have conducted audits of federal procedures.

DIVISION OF ADMINISTRATION

This Division is comprised of the follow-



THE 16th class at the Ross Leffler School of Conservation is currently undergoing training. When graduated, members will fill districts which now are without full-time officers.

ing units: personnel, procurement, hunting licenses, data processing, internal stores, and training. Although the Game Commission Training School is located near Brockway in Jefferson County, it is part of the Division of Administration.

Personnel Section

The Personnel Office centrally develops and coordinates responsibilities in personnel management for statewide operations in the following areas: classification and pay; employee benefits and services; labor relations; recruitment and placement; manpower planning; personnel transactions; career development; affirmative action; leave administration and records; and appropriate training in the aforementioned areas for all work areas located centrally and throughout our field operations. All of these responsibilities must be coordinated and developed in conformity with agency policy, civil service law, personnel rules of the commonwealth and several collective bargaining agreements. Our current operations involve approximately 330 civil service employees and 380 non-civil service permanent employees, plus approximately 150 seasonal employees of a temporary nature.

Our employee benefits section is quite comprehensive and includes such areas as the State Employees' Retirement Program; hospitalization insurance; life insurance; annual, sick and personal leave; holidays; blood bank; Immediate Relief Association; disability leave with pay; paid prescription and vision care; 25-Year Club, and several voluntary payroll deduction programs such as savings bonds, Credit Union and United Fund.

Personnel transactions involving appointments, promotions, separations and all other matters involving employee changes are in a total computerization program. The Personnel Office inputs all personnel transactions/changes to the Central Management Information Systems computer via a Uniscope terminal located in our Personnel Office. The Game Commission was a pioneer in this program which is now utilized throughout state government.

Labor relations responsibilities are very comprehensive, involving approximately ten different employee unit agreements, with the resulting contract applications and interpretations emanating from this office. Our labor relations responsibilities also include negotiations, management training, handling of grievances and arbitration.

The Personnel Office also develops and provides training for Division Chiefs, Division Supervisors, Game Farm Superintendents and other management staff in all of the aforementioned areas so as to develop a uniform and understandable total Personnel program.

Procurement Section

The Procurement Section purchases materials, supplies, equipment and printing for district offices, game farms and other installations, as well as for the Harrisburg office. The rising cost and scarcity of many commodities and services represent some of the Commission's gravest concerns. For example, Commonwealth gasoline prices rose from 12 cents per gallon in 1972 to 50 cents per gallon in 1975. All purchases must be in accord with Commonwealth procedures as developed and regulated by the Department of Property and Supplies.

Hunting License Section

This unit appoints and supervises approximately 1600 issuing agents. The unit also supervises the issuance of various types of hunting licenses by county treasurers. Monthly reports are received and audited, and revenue is deposited in the Game Fund by way of the state treasurer. The Hunting License Section makes sure agents remit funds due on a monthly basis and that licenses allotted do not exceed the amount of a bond security.

This unit is responsible for the appointment and supervision of approximately 1600 issuing agents and the county treasurers in issuing the various types of hunting licenses—adult (\$8.25), junior (\$5.25), senior (\$5.25), nonresident and alien (\$40.35), archery (\$2.20), antlerless deer \$(3.35), muzzleloader deer (\$3.25). The antlerless deer licenses are issued only by the county treasurers. The muzzleloader deer licenses are issued only by the county treasurers and the Game Commis-

sion offices. Nonresident special three-day regulated shooting grounds licenses (\$3.15) are issued by licensed operators of these shooting grounds and the Hunting License Section, Harrisburg.

Monthly reports are received and audited, and revenue received is deposited into the Game Fund via the state treasurer. Close surveillance is maintained so that agents remit money and reports on a monthly basis and that licenses allotted do not exceed the amount of surety bond security.

The Hunting License Section issues licenses by mail only. Many persons, especially nonresidents, take advantage of this service. Selected agencies at key locations in Ohio and New Jersey have been appointed and continued as a service and convenience to out-of-state hunters.

The nonresident trapping license (\$40.00) is issued only by the Division of Law Enforcement in Harrisburg.

All categories of licenses sold for the 1974-75 hunting license year indicate an increase in sales over the previous year. Approximately 1,443,775 licenses of all types (excluding antlerless deer) were sold in the 1974-75 license year.

Data Processing

Practically every segment of Game Commission work is condensed through data computerization. The Data Processing Section works with the budget, payrolls, state and federal accounting requirements, land records, and game management. Big game harvest report cards are now sorted by computer, eliminating the need for temporary employees to do this work. Data from the harvest report cards are vital to future deer management recommendations.

Internal Stores

This unit is responsible for maintaining a ready supply of clerical supplies, paper materials, and Commonwealth forms used throughout the agency, plus duplicating and mailing services within the agency. Messenger and warehouse responsibilities also fall within this unit.

Training

Approximately 1900 applications were submitted to the Pennsylvania Civil Service Commission for the position of Game Conservation Officer Trainee. Implementation of written oral and physical examinations generated 30 applicants for training at the Commission's Training School near Brockway in Jefferson County. The 11½-month course, from July 14, 1975, to June 26, 1976, exposes each trainee to an intensive working knowledge of legal procedure, game law, administration, self-defense, land management, propagation,

and human relations. Upon graduation, trainees will be assigned to vacant field positions within the Commonwealth as Game Conservation Officers. The Training School has been used by the PGC since 1936 to educate new employees in all phases of conservation and game management.

Prior to enrollment of the 16th Class at the Training School, the facility was utilized on 31 occasions by various local, state and federal conservation and enforcement organizations, with 469 persons involved.

In addition, staff officers attended 33 local civic, youth, school and conservation functions—bringing a Game Commission message to 1195 persons.

Field Administration

Some administrative tasks are delegated to the six field division offices; however, primary administrative policy lies with Harrisburg. This insures uniform implementation of all Game Commission and Commonwealth directives and policies.

DIVISION OF GAME MANAGEMENT

The Division of Game Management is made up of a section dealing with game

NORM ZOOK, of Harrisburg, is one of many Pennsylvania hunters to benefit from the game management program carried on by the PGC.



propagation and a section dealing with research. The purchase and sale of game; the coordination of trapping and transfer of wild game, along with stocking schedules for farm-produced game, is handled by this division. Personnel on field studies (research) are obligated to write annual reports of their activities; these are edited and approved in Harrisburg.

Propagation Section

Six state game farms are engaged in the propagation of pheasants, wild turkeys and ducks.

The total release of game during the fiscal year was:

Fall 1974

Pheasants	
(Purchased	21,295)
(Farm	134,284)
(Chick Program ...	58,133)
	213,713
Turkeys	6,364
Mallards	0

Spring 1975

Pheasants	7,257
Turkeys	600
Mallards	14,441

TOTALS

Pheasants	220,970
Turkeys	6,964
Mallards	14,441
Rabbits	2,777

All of the rabbits trapped this year were taken without charge to the Commission by sportsmen's organizations and others not interested in compensation. The Commission no longer pays for the trapping of rabbits, but still furnishes traps.

In the statewide Pheasant Chick Program, 66,635 day-old chicks were distributed. Eighty-three sportsmen's organizations received 31,505 chicks, and 74 farmers who have land open to public hunting received 35,130 chicks, for which they were paid \$1.35 for each bird raised to 12 weeks of age. A total of 58,133 pheasants was raised and released by co-operators in the Pheasant Chick Program.

Research Section

Deer Study—A study involving male deer fawns from the poorest range in Pennsylvania and kept on a good diet was completed during the year. Body weights and antler development were well above the average for deer from poor quality range. This further established that food, rather than genetics, controls animal quality when deer are 1½ years of age.

A study to evaluate the effect of severe forest defoliation from insects was continued. The short- and long-range effects on deer, grouse and vegetative succession are being examined.

Turkey Study—The value of forest openings to brood production and the value of spring seeps to winter survival currently are being studied. Seasonal activity and movement are being determined in different habitat types via radio telemetry.

The spring gobbler season was expanded to three weeks in May, 1975. The extension was well received by the hunters. It increased the harvest and was not harmful to the turkey population.

Rabbit Study—Rabbit populations and mortality were studied at four locations by trapping, radio telemetry, and hunter bag checks.

Check Stations—Seven deer and 20 bear checking stations were operated to obtain physical data, such as sex and age, from the harvested animals. These checks are necessary to properly manage these big game populations while avoiding over or under harvest.

Grouse Study—Habitat management to benefit grouse has been initiated on 15 selected State Game Lands. Where possible, the work is being accomplished by commercial timber sales.

Dove Study—Approximately 35 individuals throughout Pennsylvania are assisting in the banding of doves. Intensive banding and field marking is being done at two locations. The harvest will be monitored at these two locations.

Black Bear Study—Six biologists are assisting with the bear trapping and mark-



PGC Photo by CIA Fred Servey

FARM COUNTRY deer that live a few years get big, as shown by this Erie County road-kill picked up by DGP Russ Meyer; 4½-year-old 13-pointer went 300 lbs. live weight on certified scales.

ing program. Data is gathered from nearly every bear recovered in Pennsylvania. This was accomplished by the mandatory check of hunter-harvested bear. Annual data collection data will be required in the future.

Small Game Survey—Hunters are randomly sampled each year via a questionnaire. Much valuable information is gathered about harvests and hunter participation in all forms of outdoor pursuits such as trapping, use of public lands, etc.

Cooperative Research Studies—Cooperative studies, which are supported by Game Commission funds, are being conducted by several universities. These involve deer nutrition, wildlife disease, conflicts with highways, black bear, woodcock, grouse and turkey.

DIVISION OF LAND MANAGEMENT

The Division of Land Management is responsible for obtaining, developing, managing and maintaining 261 separate tracts of State Game Lands within the Commonwealth, specifically for wildlife, the primary objective being outdoor recreation in the form of sport hunting. A secondary objective is to provide open space where other compatible recreational activities may be pursued and enjoyed by all citizens.

This Division's responsibilities include the leasing of private lands and other public lands for the same purpose. Through cooperative agreements, approximately six million acres of public and private lands were included in the several programs last year.

Management work is carried out with a variety of techniques and methods involving field officers, foresters, work crews, survey crews, waterfowl management agents and administrative personnel at the six field division offices and Harrisburg.

Federal Aid

During the fiscal year the Pennsylvania Game Commission received \$2,463,705.70 in Pittman-Robertson funds for use in wildlife restoration. The Division of Land Management used the bulk of this money for habitat improvement on State Game Lands, Cooperative Farm Game Projects and other leased state and federal lands. Program income, such as from the sale of wood products, surplus grain, and sale of minerals from Pittman-Robertson funded projects, must be added to the funds received from Federal Aid each year. In the past fiscal year \$738,764.87 was added to this restoration project, making this effort by the Game Commission the largest Pittman-Robertson funded project in the nation.

Under a cooperative agreement with the U.S. Forest Service, emergency treatment measures to prevent accelerated erosion and sediment damage to downstream areas were applied to areas damaged by Hurricane Agnes on 11 State Game Lands. Final reimbursement in the amount of \$86,638.80 was received during the past fiscal year.

Highway Impact Review

The 1969 National Environmental Policy Act provided, among other things, that all federally funded highway construction projects be reviewed by the conservation and environmental protection agencies in each state. Review efforts are aimed at identifying and reducing as far as possible any adverse construction impacts on the natural environment. The Game Commission and the Pennsylvania Department of Transportation were cooperating in such an effort as early as 1968, and the program continues on an expanding scale. In the past year some 200 major projects were reviewed by the Commission's land management and research staff. Each of these projects represented a major construction impact. Interstate highway construction, for example, can require up to 50 acres of new right-of-way per mile. Several major highway systems remain to be completed in the Commonwealth, all of which will come under review by the Commission.

Land Acquisition

During the fiscal year 1974-75, an additional 12,799.992 acres of State Game Lands were purchased and ownership conveyed to the Game Commission in 29 counties with Game Fund monies. These lands cost \$1,235,603. 24. Lands purchased with Game Fund monies since the inception of the acquisition program in 1920 now stands at 1,148,901.265 acres, for a total cost of \$14,111,045.46. In addition, 17,527 acres were purchased with Project 70 funds during the years 1965 to 1974. At present, indentures, interior holdings and public accesses are being purchased wherever possible, to create more efficient management units.

Survey and Drafting Section

The Commission employs five full time survey crews. Each crew is made up of one party chief, one instrument operator, and two brush cutters. The crews perform boundary line surveys for all land acquired by the Commission. In addition, they survey lost and disputed boundary lines, re-survey existing Game Lands, and make topographical surveys. Five draftsmen are also employed to provide the mapping work and produce the various maps needed in the acquisition and land management programs.

Payments in Lieu of Taxes

Payments are made to local government bodies in-lieu-of taxes, at the rate of 20 cents per acre. Contrary to often expressed public opinion, land owned by the Commission is not free from all obligations.

During the past year, \$92,945.94 were paid to the various counties, \$93,372.28 to school districts and \$46,603.67 to township road supervisors for a total of \$232,921.44.

Right-of-way Administration and Licensing

Section 906 of the Pennsylvania Game Law authorizes the Commission to grant rights-of-way to private business, industry and municipal and other governmental agencies in recognition of public needs for power and pipeline facilities, communication towers, etc. Each right-of-way application is evaluated to identify any adverse impacts on wildlife habitat or ongoing land management programs before it is approved. Electric transmission and gas and oil pipelines represent the majority of present right-of-way licenses affecting Game Lands. The licensed companies must maintain their rights-of-way in an approved food and cover condition and many are reseeded on a regular basis. Revenues from right-of-way fees totalled \$176,470.00 last year.

Recent innovations in right-of-way maintenance developed with the cooperation of electric utilities have resulted in improved wildlife cover. Desirable shrub species and herbaceous cover is maintained through selective, closely supervised basal spraying.

Minerals Section

Revenue derived from the lease and sale of minerals, oil and gas amounted to \$408,342.68 for fiscal year 1974-75. The figure represents an approximate 100 per-

UNIQUE ECOLOGICAL areas, such as this stand of virgin timber, are set aside as "no management areas" to be preserved for future generations to enjoy.



ABANDONED AND unreclaimed strip mining areas were contributing to soil erosion and water pollution in Huntingdon County

cent increase over the previous year's revenues, and should continue to increase as domestic sources of fossil fuels are sought.

Recovery of minerals from Game Lands is a legitimate secondary use as provided for in the Game Law. Projects are carefully reviewed to select only those which fit a minimum disturbance-maximum recovery formula. The bulk of the lands leased are for recovery of oil and natural gas. This leased acreage remains open to public use and the operating companies are under strict contractual agreement to maintain any well sites, pipelines, etc., in an approved food and cover condition.

Forestry Section

Game Commission foresters and forest technicians collected field data on and prepared plans for 24 Game Lands tracts involving 80,876 acres. They also planned and administered commercial timber sales on 4294 acres. These sales brought in \$658,335.77, an increase of almost \$42,000 over last year. Also, 1115 acres of timber areas were selectively marked on several Game Lands for improvement cutting under Project 500. An additional 675 acres were selectively marked on various Game Lands for improvement cutting by Food and Cover employees. These timber operations, both commercial and non-commercial, improved wildlife habitat by opening the forest canopy, thereby permitting sunlight to enter, enabling sprout growth and seedling regeneration to increase and provide more wildlife food and cover.

Our foresters also selected 12 predominantly aspen areas on several Game Lands involving 1600 acres and marked treatment patterns for Grouse Habitat De-

velopment. The cuttings being made to implement the plan are of both commercial and noncommercial operations.

Management and Development

During the past fiscal year we have made very good progress in converting the better cropland areas of Game Lands to planned rotation management through the use of sharecropping agreements with local farmers. Through the diligent efforts of Land Managers, 16,628 acres are now included in this program. The Commission received 28,395 bushels of corn and 12,149 bushels of other grain as part of the sharecrop harvest. In addition, 14,288 bushels of corn and 359 acres of small grain were left standing for wildlife.

Land Management personnel accomplished the following wildlife habitat development and maintenance: planted

Project 500

Project 500 funding for development of Commission owned land amounted to \$2,604,012 this fiscal year. The projects included development and improvements to public access, stripmine restoration and wildlife habitat improvement.

Contracts totaling \$1,173,314 were awarded for seven major construction projects during the past fiscal year. These included three storage and headquarters buildings, Howard Nursery improvements, road resurfacing at Middle Creek, and two pheasant brooder houses each at the Loyalsock and Western Game Farms. Planning continued for access development on State Game Lands 95, the Glades Wildlife Management Area; for the construction of a proposed hunter registration building on State Game Lands 280; along with several smaller projects which, when completed, will improve access to the Game Lands.

Waterfowl Management

The Glades Dam on State Game Lands 95, Butler County, was completed. This structure impounds 400 acres of shallow water and creates a marsh type habitat for waterfowl. A waterfowl propagation area includes 165 acres of the impoundment with the remaining 235 acres and the surrounding area open to public hunting. A control structure was also installed at Lake Warren on State Game Lands 56 in Bucks County. This makes it possible to manipulate the water level to develop more desirable waterfowl habitat on this impoundment.

Last year the Middlecreek Wildlife Management Area and the Pymatuning Water-

... approximately 1.2 million cubic yards of earth and rocks were bulldozed to cover the mining scars and re-establish the contour of the land ...

1807 acres of grain for wildlife food strips; maintained 20,666 acres of wildlife food strips by mowing or other treatment; planted 867 acres with tree and shrub seedlings for wildlife cover strips for improved conifer cover and stripmine restoration; cut 583 acres of woodland border and 1747 acres of other forest cuttings for wildlife; constructed 3 waterfowl ponds and maintained 272 others; erected 391 and maintained 1823 waterfowl nesting devices.

Other work accomplished by Land Management included construction of 10 bridges and 80 parking lots; improvements to 26 miles of service-access roads and 8 miles of hunter access trails; painting and tagging of 1597 miles of boundary lines; maintenance of 2449 miles of service-access roads, 236 miles of hunter access trails and 26 bridges.



... and finally, diversion terraces were established to control surface water until seeded ground cover can make area productive for wildlife again.



MANY NUISANCE bears are trapped and moved to different areas to cut down on damages. Last year, all money available for such damage was used.

fowl Area again were highly utilized by sportsmen and the general public. Prior to the waterfowl season, goose blind reservations were drawn at random from 33,346 applications. Successful applicants and their guests hunting from blinds on the two areas totaled 6330. An additional 2019 sportsmen hunted on the controlled duck hunting areas at Pymatuning.

Over 400,000 persons visited the two management areas last year, many just to view the abundant wildlife, or the unspoiled beauty of the areas, others to attend programs or to view the mounted waterfowl displays in the visitors' centers.

Howard Nursery

A total of 5,056,500 tree and shrub seedlings were shipped from the Howard Nursery for wildlife habitat improvement on State Game Lands, Farm Game Projects, private lands open to public hunting and other public areas such as land for flood control projects administered by the Army Corps of Engineers and leased to the Game Commission.

Habitat improvements include blocks or patches of conifers for winter cover, strips of conifers or shrubs for travel lanes and plantings of seed producing shrubs for food.

A significant number of the tree and shrub seedlings were planted on reclaimed strip mines to provide additional wildlife habitat.

Cooperative Farm Game Projects

There are currently 173 active Farm Game Projects in 57 counties with 3 new ones being established in Columbia and Luzerne Counties. A total of 16,484 co-

operators have over 1,965,000 acres of private land enrolled and open to public hunting through this program, an increase of 51,500 acres over last year.

Such projects through the generous cooperation of private landowners furnish the habitat for sport hunting in the agricultural regions of the state where open public land is limited.

In an effort to express the appreciation of the Game Commission and the sportsmen of Pennsylvania, this year recognition was given to long-term cooperators with the presentation of certificates of appreciation to approximately 9000 landowners whose properties have been in a Farm Game Project for 10 years or longer.

In addition to the erection and maintenance of Safety Zones around farm buildings, Land Management personnel made over 38,000 landowner contacts, distributed nearly 1,500,000 tree and shrub seedlings to cooperators and implemented 540 acres of woodland border cuttings to improve wildlife food and cover.

Safety Zone Program

The Safety Zone Program continues to play an important role in the Game Commission's efforts to keep more private land open to public hunting. This program, administered at the local level by Game Protectors with help from Deputies and local sportsmen, showed an increase in both acreage and cooperators last year. We now have 10,639 cooperators with over 1,915,000 acres enrolled.

Forest Game Program

The Forest Game Cooperative Program has gone over the 500,000-acre mark. This program was initiated in 1971 to improve sportsman-landowner relationships in the more heavily forested areas of the state. The program has flourished since its inception and now has 16 large landowner cooperators.

Under this program private industry and the Game Commission have joined hands in an effort to keep more privately owned land available for public hunting. The Game Commission provides more protection to cooperative lands to reduce damage to roads, trees and other property and tries to eliminate littering and vandalism. Eventually the Commission hopes the program will encompass a million acres of open hunting land that might otherwise have been closed.

DIVISION OF LAW ENFORCEMENT

General Law Enforcement

The law enforcement work done by the Game Commission is necessary to insure the success of all our other programs.

Our goal is to maintain an acceptable degree of compliance with all game laws and regulations pertaining to wildlife, safety, protection of people and property and the hunting license.

This is a problem which continuously presents new challenges. Many violations of wildlife laws occur in remote areas and often under cover of darkness. This makes it necessary for our enforcement officers to spend many hours in these remote areas at night. We keep them supplied with the best equipment we can afford to do this job. These efforts are sometimes hampered by regulations regarding purchasing; this can cause a long delay between the time the need for new equipment is recognized and the delivery of the equipment to the field. Inadequate storage facilities create unnecessary problems in supplying uniform equipment. During the fiscal year, \$65,155.26 was spent or encumbered for uniform equipment.

The law enforcement arm of the Game Commission centers on the District Game Protector. The Commonwealth is divided into six field divisions and further into 136 Districts. These Districts average about 330 square miles each. We now have 20 vacancies on our District Game Protector force; for this reason, some Game Protectors are now responsible for law enforcement work and other programs in areas of 600 to 800 square miles.

During the year, we completed recruiting a class of Game Protector Trainees. In another year enough of them should graduate from our Training School to fill all vacancies.

There were 10,138 prosecutions made for violations of the Game Law this fiscal year. Almost 98 percent of these prosecutions resulted in convictions and \$390,591.88 was collected in penalties. We revoked hunting privileges of 1346 persons, both as a result of violations and carelessness resulting in hunting accidents.

Special Permits

The Game Commission issued 2526 special permits for \$36,263.00. This income figure is misleading, as the costs of servicing these permits may be more than the income derived from them. Other permits, including bird banding, are issued without charge.

Forty-nine applications were received for the taxidermy examination. Two applicants failed to appear; 22 passed and are now licensed to practice taxidermy; and 25 failed to meet the minimum requirements.

We have received many inquiries from other states on our examination system. Apparently, we are the only state to

license taxidermists. There is now a national organization of taxidermists. Their meetings have spread the word among taxidermists about our examination and licensing system. The taxidermists recognized the merit of our system and some are asking for a similar program in their home states.

We have made a study of bird banding and falconry permits. We have learned a great deal from this study and have a much better understanding of these activities.



ONGOING DEPUTY training includes competitive handgun shooting, such as this match at Scotia Range. DGP Joe Wiker's team, captained by Bill Sipple, took honors during past year.

The emphasis on protection of endangered species—and permits relating to them—coupled with the increased request for special permits of all types may in the foreseeable future require several officers being assigned exclusively to this duty.

Wildlife Damage

The Game Commission spent the \$7500 that the law allows for damages by bear to livestock, poultry, bees and bee keeping equipment during the fiscal year. We had several legitimate claims which could not be paid, as we had already reached this limit. This is the second time in the history of the Commission that this occurred. Today's inflated prices indicate a need to abolish this limit. The expenditure of \$7496.43 for bear damage was for 72 claims.

We also serviced complaints resulting from other species of wildlife, both game and non-game. This took up much of our Game Protectors' time and was an expensive operation.

Many nuisance animals were live-trapped and transferred. These included raccoons, ducks, geese, deer, rabbits, pheasants, squirrels and bear. We also

removed 127 starving deer from Presque Island State Park. We used tranquilizing equipment for this operation, which cost us much time and expense. This shows that surplus animals must be harvested and that the most economical way to do this is through public hunting. Deer removed from Presque Isle were so weakened by starvation that about 30 percent of them died.

We furnished 335.6 rolls of deer-proof fencing to 16 farmers. They erect this fencing to prevent crop damage; this often prevents the killing of many deer for crop damage. We spent \$9987.44 for 262 rolls of fencing alone. Other costs include investigation of applications, delivery of fencing and inspections of completed fences. We are presently limited to spending \$10,000 a year for this fencing; if limited to this figure, we will not be able to meet demands for fencing in the future if the price of fencing continues to rise. We have changed the specifications on fencing in order to get more for our money. Fortunately, we began the year with a small surplus of fencing or we could not have met this year's obligation.

Nearly \$156,000 was spent servicing wildlife damage complaints and picking up highway-killed game. We spent \$1618.55 trying to save water fowl endangered by an oil spill on the Delaware River.

Deputy Game Protectors

At the end of the period covered by this report our Deputy force consisted of 1596 regular deputies and 68 honorary deputies; 45 of these deputies are newly

qualified for a 25-year service pin.

This Deputy force provides valuable assistance to District Game Protectors in a number of Game Commission programs. Many of the services they provide are given to the Game Commission without charge. The Deputy force was originally used exclusively for law enforcement; participation by deputies in other Game Commission programs requires additional training. Present day law enforcement procedures require almost constant training; \$35,990.52 was spent on Deputy training during this year.

The cost of the Deputy program—other than training—amounted to \$454,628.75.

Cooperation With Other Agencies

Game Commission Officers cooperate with other law enforcement agencies on federal, state and local levels. These activities cost the Game Commission \$71,312.89.

The Game Commission in return receives much help from these other law enforcement agencies. This has been a very rewarding experience and often results in good relations with other departments at all levels of government.

Game Law Books

The 1975 edition of the Game Law has been changed. It has been printed in a slightly larger (5½ x 8½-inch) size. Printing in this size allows for a slight savings in cost. Also, for the first time, we have supplied salaried officers and deputies with a loose-leaf edition of the Game Law. This edition will be continually updated with insert pages as amendments to the Game Law are made, keeping our officers informed at all times. This system has been made much more efficient since we now have the entire Game Law set on photon tape. Taping will also be updated continually as amendments flow from the General Assembly. The total Game Law printing for 1975 is 40,000 copies. The reduction of 20 percent compared with the 1973 edition printing was necessary to further reduce costs, as labor and printing prices have escalated tremendously in the last few years.

DIVISION OF INFORMATION & EDUCATION

An enlightened public is an understanding public. The various activities and programs of the Game Commission need to be brought to the attention of the public in order to be most effective. Wildlife problems are most often people problems.

Lack of understanding of the complex nature of environmental influences may result in an anti-management attitude. The



PGC PERSONNEL use most advanced equipment available in law enforcement work. Goals are to maintain compliance with game laws, promote hunter safety and protect property.

informational and educational program aimed at putting the facts before the people is multi-pronged: radio and TV messages, news items and feature stories in newspapers, exhibits and personal contacts in public locations, participation in public affairs discussions, publications and cooperative programs with other agencies.

Pennsylvania Game News

GAME NEWS subscription prices were increased to \$3.00 per year or \$7.50 for three years (from \$2.00 and \$5.00), effective July 1, 1974, the first day of the last fiscal year. The increase was necessitated by the rising costs of paper and postage. The subscription income of approximately \$500,000 annually is returned to the Game Fund. GAME NEWS had an average total monthly circulation of approximately 210,000 over the past year. Over 36,000 of these were from outside of Pennsylvania, including 400 from foreign countries. Approximately 27,000 copies go to Farm Game, Safety Zone and Forest Game cooperators, in appreciation of their contributions to the Commission and Pennsylvania's hunters. Another 9000 are distributed among Commission personnel, deputy game protectors, Pennsylvania school and public libraries, veterans' hospitals, newspaper editors, outdoor writers, radio and television stations, legislators, and other conservation agencies. Surplus magazines are distributed at sportsmen's shows and fairs, often resulting in new subscribers, and to interpretative naturalists at state parks for educational use.

In addition to making the public aware of the Game Commission's programs and policies, a basic objective of GAME NEWS always has been to present informative and entertaining articles and stories on all phases of outdoor life in Pennsylvania except fishing and boating, which are covered by the Fish Commission's PENNSYLVANIA ANGLER. Therefore, in addition to freelance material we regularly run columns on archery, camping, conservation, guns, hunter education, and outdoor women's activities. During the past year, to give readers some idea of little-known conservation facts from other parts of the country, we began a one-page column, "In the Wind." And alternating monthly with the hunter education column we added "Woodland Thoughts," based on the observations of a hunter/naturalist's ramblings in Pennsylvania. Both are staff-written. Recognizing the importance of outdoor education in our schools and the limited time teachers have to examine available literature, create programs, etc., with this issue we begin another short column, "OWL—Outdoor Wildlife Learning," intended to make teachers and students aware of what can be done in this field.



PUBLICIZING the Commission's programs, working with sportsmen's and school groups, and similar assignments are basic jobs for the Conservation Information Assistants working out of the six field division offices.

Also during the past year, we ran a questionnaire to determine readers' interests (see the November issue for results). We will be keeping the results in mind when planning upcoming issues of GAME NEWS.

Information

Approximately 1500 news releases dealing with Commission activities, wildlife problems, hunting seasons and other informational items were prepared and distributed. Over a dozen feature stories with photos were prepared and distributed to newspapers for special release. At least one feature article on Commission programs was included each month in the GAME NEWS.

Booklets printed to disseminate information included 1,700,000 Hunting Digests and 50,000 Hunting Facts. Over 200,000 pieces of free literature, mostly reprints of articles from the GAME NEWS, were distributed upon request. Paid literature sales returned \$37,000 to the Game Fund. A series of wildlife portrait reproductions have been made available to the public to stimulate interest.

Commission personnel participated in approximately 200 radio and TV programs; these included news items, interviews and public affairs discussions. Personnel were present in an official capacity at nearly 5900 meetings having an attendance of 375,000 people. Approximately one-half of



FROM front left, clockwise: Commissioners A. C. Long, E. J. Brooks, E. M. Rinehart, Mrs. Bowers and Executive Director G. L. Bowers, Commissioners J. A. Thompson and R. E. Sutherland, at PGC function.

these were service clubs or sportsmen's groups, the others were mainly youth groups. Twenty-one tours of Game Lands were held, attendance was 1168 persons.

Conservation Education

The major thrust this past year has been toward the inclusion of conservation education in the public schools. A teaching aid for the high school level has been produced and distributed to all teachers submitting a request. It is entitled "Wildlife and the Environment—a 10-Day Unit." Commission personnel have taken an active part in the Inter-agency Environmental Education Committee. The function of this committee is to survey available literature and programs environmentally oriented and to coordinate efforts of the conservation agencies for maximum benefits. A materials resource inventory has been prepared for distribution.

A new project workbook has been prepared and distributed in cooperation with the Department of Education. This program involves individual participation by the student in Vo-Ag curriculum under

DGP GENE UTECH instructs youth group in the safe use of handguns. Teaching youngsters the proper way to use guns, and that they must be treated with respect, makes responsible shooters.



the supervision of the teacher with additional guidance by Commission field personnel.

Production of "Wildlife Notes" is continuing. These leaflets serve an educational function and are distributed free upon request. They treat biology, population and habitat management requirements for individual species of wildlife. Specific input for wildlife considerations has been made to "Managing Forest Resources for Wildlife Benefits," a publication being prepared in cooperation with the Bureau of Forestry and the Extension Service of Penn State University.

Commission personnel have had an active part in presenting career placement programs, seminars and teacher's environmental workshops in cooperation with the Bureau of Parks and Soil Conservation Districts.



N. J. MOLSKI, Northeast Division Supervisor, discusses differences between skulls of cub and adult bears.

Conservation exhibits have been constructed and shown publicly in 152 locations for an estimated 1½ million viewers. Movies from Commission film libraries have had 4100 showings to audiences totaling 270,000 people. Two new films were added to the libraries this past year—"A Question of Hunting" and "Birds of Prey of Northeastern United States."

Information and Education personnel received inservice training to increase skills and effectiveness at a communications short course, Cornell University and a communications workshop produced by a consultant.

Hunter Education

Pennsylvania's Hunter Education Program continues to emphasize hunter responsibility, wildlife management and the recreational value of hunting. A new Hunter Education Training Manual has been distributed as a guide for teaching

the course. In addition to providing firearms safety, it provides information on hunting and trapping, traditions and ethics and game management.

During the past year, 1028 hunter education classes and meetings were presented with 57,813 persons in attendance. A total of 54,008 students were certified as having successfully completed the minimum four-hour compulsory course, and 513 volunteer hunter education instructors were approved and certified by the Game Commission.

As a part of the Game Commission's Hunter Education Program, salaried officers participated in six county conservation camp programs and the Federation of Sportsmen's statewide Junior Conservation Camp program. A five-part hunter education series was produced in cooperation with WPSX television. It was aired four times in conjunction with National Hunting & Fishing Day and Pennsylvania's hunting seasons.

Four Hunter Education News Releases were sent to the news media and three separate newsletters were sent to all hunt-

er education instructors. Twenty-five hunter education articles were provided for GAME NEWS and salaried officers. Eleven new portable hunter education displays were exhibited at 125 programs. As a service to the Boone and Crockett Club and Pennsylvania sportsmen, 15 big game heads were officially measured for the North American Big Game Records competition.

Support Services

This section handles both movie and still photographic service for all divisions within the Commonwealth. Coverage extends from informational and instructional programs to those of historical significance. The output is utilized in publications (GAME NEWS, etc.), news releases, documents, exhibits and programs. Slide-script series have been prepared for use in Wildlife Conservation and Hunter Education programs. An educational movie, "The Wild Turkey in Pennsylvania," has been completed. Another on the black bear is contemplated.

P.G.C. Financial Report, July 1, 1974 to June 30, 1975

By Edward T. Durkin, Comptroller

At the close of this fiscal year, the Game Fund continued to reflect increased financial stability. The results of operations for the 1974-75 fiscal year indicate a net operating increase of \$3,973,288.56 which brings the amount available for commitment and expenditure as of June 30, 1975, to \$14,088,180.62.

Total revenue received amounted to \$20,137,272.54 which represents an increase of \$1,874,226.56 over the preceding fiscal year. This was due primarily to increased resident, nonresident and antlerless hunting license revenue resulting from the recent increase in fees approved during the last several years. Significant increases were also realized in ground rentals and royalties from gas and increased interest earnings.

Expenditures and commitments during the 1974-75 fiscal year totaled \$16,163,983.98. This figure represents a \$2,075,334.40 increase over the previous fiscal year due mainly to the payment of higher salaries and increased employee benefits resulting from collective bargaining, increases in the purchase of cars, trucks and other equipment, increases in land acquisition and increased cost of services and supplies due to the inflationary pressures of the present economy.

In summary, the Game Fund is in good financial condition. However, it should be pointed out that while revenue will tend to level off, the cost of services and sup-

plies will continue to spiral upward.

Earmarked Funds

Act 271, Session of 1949, of the Game Law, provides that \$1.25 from each Resident Hunter's License fee shall be spent for the selection, restoration, rehabilitation and improvement of lands available for public hunting to improve natural wildlife habitat. During the last fiscal year, the actual expenditures for this purpose totaled \$2,671,818.81 which exceeded minimum expenditure requirements of the Act by \$1,296,818.81.

Act 632, Session of 1956, of the Game Law provides the sum of \$1.00 from the sale of each antlerless deer license shall be used to produce deer food and cover on State Game Lands. Total expenditures during the last fiscal year concerning the Act were \$632,342.76 which exceeded the required minimum by \$252,342.76.

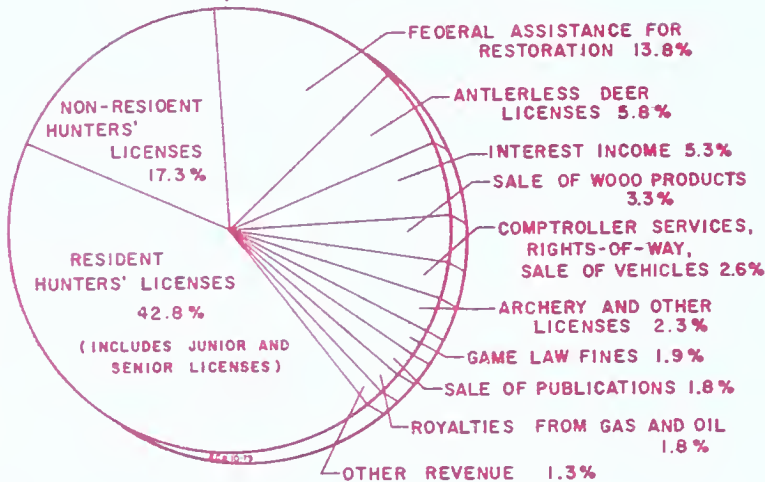
The Project 500 Fund is a statewide bond issue passed by the legislature in 1968 for the reclamation of the land and water resources of the Commonwealth. During the 1974-75 fiscal year, the Game Commission expended and committed \$2,604,011.62 for a cumulative total of \$17,730,005.89 expenditures and commitments to date from the Project 500 Fund.

The results of operations of the Pennsylvania Game Commission for the 1974-75 fiscal year are illustrated in the following detailed financial statements.

GAME COMMISSION REVENUE

\$20,137,272.54

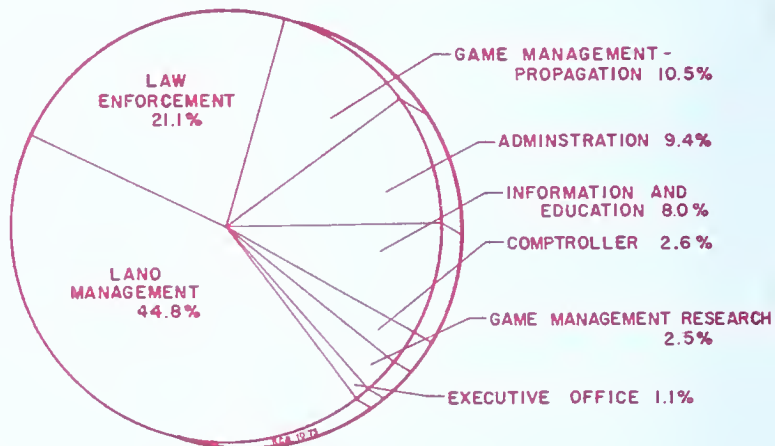
JULY 1, 1974 TO JUNE 30, 1975



GAME COMMISSION EXPENDITURES AND COMMITMENTS

\$16,163,983.98

JULY 1, 1974 — JUNE 30, 1975



PENNSYLVANIA GAME COMMISSION

GAME FUND	AMOUNT AVAILABLE FOR COMMITMENT & EXPENDITURE	1974-75
Amount Available for Commitment and Expenditure, July 1, 1974		\$ 9,691,424.66
Plus: Prior Year Adjustment - Cancellation of Prior Commitments		423,467.40
Adjusted Amount Available, July 1, 1974		\$10,114,892.06
Results of Operations—1974-75 Fiscal Year		
Total Revenue	\$20,137,272.54	
Less: Expenditures and Outstanding Commitments	16,163,983.98	
Net Operating Increase		3,973,288.56
Amount Available for Commitment and Expenditure, June 30, 1975		\$14,088,180.62

**GAME COMMISSION COMMITMENTS & EXPENDITURES
FUNCTIONAL PROGRAM ACTIVITIES**

FISCAL YEAR 1974-75

EXECUTIVE OFFICE		\$ 175,704.34
COMPTROLLER OPERATIONS		419,990.48
ADMINISTRATION:		
Field Administration	\$ 563,983.30	
Hunting License Section	426,548.83	
Personnel Section	181,182.41	
Procurement Section	165,874.37	
Data Processing Section	101,432.11	
Training School	84,028.35	
		<hr/> 1,523,049.37
INFORMATION & EDUCATION:		
Information and Education	\$ 604,068.16	
Pennsylvania Game News	522,356.29	
Hunter Safety Education	96,362.90	
Photographic Section	65,634.98	
		<hr/> 1,288,422.33
GAME MANAGEMENT-PROPAGATION:		
Pheasant Program	\$ 1,362,018.29	
Turkey Program	254,734.06	
Mallard Duck Program	78,617.08	
Rabbit Trap & Transfer Program	8,753.19	
		<hr/> 1,704,122.62
GAME MANAGEMENT-RESEARCH:		
Deer Study	\$ 117,334.28	
Rabbit Study	76,505.71	
Cooperative Research Studies	67,373.69	
Turkey Study	65,713.11	
Black Bear Study	32,351.01	
Ruffed Grouse Research Project	27,732.02	
Mourning Dove Research Project	17,027.45	
		<hr/> 404,037.27
LAW ENFORCEMENT:		
General Law Enforcement	\$ 2,576,398.02	
Deputy Law Enforcement	454,628.75	
Servicing Wildlife Complaints	155,982.01	
Radio System	118,733.64	
Assistance to Other Commonwealth Law Enforcement Agencies	71,312.89	
Deputy Training	35,990.52	
		<hr/> 3,413,045.83
LAND MANAGEMENT:		
Game Lands-Management and Development	\$ 3,146,377.97	
Land Acquisition Program	1,292,093.62	
General Land Management Activities	1,031,664.74	
Farm Game-Management and Development	561,973.96	
Forestry Section	314,741.04	
Survey and Drafting Section	274,637.67	
Waterfowl Management-Special Areas	260,659.41	
Howard Nursery	151,855.79	
Other Land-Management and Development	114,605.46	
Federal Aid Section	55,587.25	
Minerals Section, Rights-of-Way Administration .	30,012.08	
		<hr/> 7,234,208.99
Expenditures & Commitments from Game Fund by Other State Agencies		1,402.75
TOTAL EXPENDITURES & COMMITMENTS		<hr/> <hr/> \$16,163,983.98

GAME COMMISSION REVENUE
July 1, 1974, to June 30, 1975

Resident Hunters' Licenses	\$ 7,530,541.00
Resident Junior Licenses	814,855.90
Resident Senior Licenses	268,660.35
Non-Resident Hunters' Licenses	3,474,557.75
Antlerless Deer Licenses	1,173,308.00
Archery Licenses	405,415.60
Special Game Permits and Other Licenses	49,039.00
Game Law Fines	390,591.88
Federal Aid for Wildlife Restoration, Recreation, and Research	2,700,536.11
Federal Reimbursement for Flood Related Costs	86,638.80
Interest on Securities and Deposits	1,072,098.85
Sale of Timber and Other Wood Products	658,335.77
Game News Subscriptions and Sale of Publications	367,686.36
Royalties from Gas and Oil and Ground Rentals	363,896.58
Reimbursement for Comptroller Services	216,476.54
Rights-of-Way License Rentals	176,469.98
Sale of Used Automobiles, Tractors, etc.	124,250.00
*Other Revenue	263,914.07
TOTAL REVENUE	\$20,137,272.54

*Other Revenue consists of reimbursement from Project 500 activities, refunds of prior year expenditures, sale of unserviceable property, sale of skins and guns, rental of property, and sale of minerals and other commodities from State Game Lands.

GAME COMMISSION COMMITMENTS & EXPENDITURES
Incurred July 1, 1974, to June 30, 1975

Salaries	\$ 5,463,243.20
Wages	3,054,775.44
Employee Benefits	1,657,706.76
Land Purchases and Acquisition Costs	1,251,317.42
Printing and Advertising	801,219.68
Automotive Repairs, Supplies, and Rentals	657,925.47
Purchase of Automobiles, Trucks, and Jeeps	638,821.13
Maintenance and Improvements of Buildings, Grounds, and Machinery	390,962.29
Pheasant and Turkey Feed	384,779.12
Payments to Local Municipalities in-lieu-of Taxes	232,921.44
Travel Expenses	210,215.42
Payments to Other State Agencies:	
Reproduction and Duplicating Services	61,774.72
Electronic Data Processing	45,531.47
Auditing Services	21,928.79
Personnel Services	15,398.64
Purchasing Services	8,156.48
Checkwriting and Disbursement Services	4,469.81
Postage	147,736.30
Telephone	142,486.90
Heating, Power & Light	133,830.95
Purchase of Pheasants and Other Game	116,830.35
Office Equipment, Maintenance, Rentals and Supplies	101,761.36
Legal, Appraisal and Consulting Fees	90,353.79
Purchase of Heavy Equipment and Farm Machinery	81,783.73
Educational, Photographic, and Recreational Supplies	80,287.36
Wildlife Habitat Seedings and Plantings	70,230.04
Uniforms for Game Commission Personnel	65,155.26
Research Grants to Universities and Wildlife Associations	62,860.00
Contracted Maintenance Services on Radio Equipment	46,250.00
Rental of Tabulating and Xerox Equipment	46,132.83
Insurance on Automobiles	38,146.05
Building Rentals and Land Right-of-Way Leases	20,105.16
Payments to Individuals for Bear Damages and Deer-Proof Fencing	17,483.87
Game Commission, General Operations—Total	\$16,162,581.23
Replacement Checks, Treasury Department	1,000.00
Payments in-lieu-of Taxes, Dept. of Environmental Resources	402.75
TOTAL	\$16,163,983.98



FIELD NOTES



Tom Told Him Off

LYCOMING COUNTY — A local resident picked up an injured male turkey which had flown into a building. He took the bird home, put it in a cardboard box and notified Deputy Jeff Aderhold. Jeff picked the bird up that evening but didn't attempt to release it until the following morning. Apparently the turkey recuperated during the night, because as Jeff was driving through Hughesville the old tom erupted from his box and commenced to give the deputy a good flogging. Jeff had to pull off the street until the bird calmed down. It finally settled down and sat on the seat beside Jeff and gobbled the rest of the way through Hughesville. Upon release, the bird flew away with no apparent injuries.—District Game Protector W. L. Hutson, Muncy.

Luke Lends Cool Hand

TIOGA COUNTY — Game Protectors are always looking for cheap labor. One day, Game Protector Bernstein and I were trying to remove mud and sticks from a culvert pipe which had been blocked by beavers. We were having a difficult time, as the blocking was too far back for us to reach with our tools. I struck on the idea of sending my Labrador retriever Luke into the pipe to retrieve the sticks. Sure enough, after a few retrieves and with the assistance of the chilly flowing water, the job was completed.—District Game Protector C. L. Keller, Wellsboro.

Look at the Sun?

CUMBERLAND COUNTY — A gentleman came to my headquarters to pay a fine for hunting after hours. He told me the reason he was hunting late was because his watch was at the jeweler's shop being repaired. After paying the penalty, he said, "Now I won't be able to afford to get my watch for another week, so I still won't know if I'm hunting late."—District Game Protector J. P. Filkosky, Mechanicsburg.



Just Parched

The first day of small game season was beautiful, but with the temperatures in the 70s, it was a little warm for strenuous activity. During the day, I saw a hunter near a pasture; in the field was a watering trough from which the hunter's dog was drinking. The funny part is that the dog was standing in the middle of the trough while doing so.—Land Manager J. P. Shook, New Enterprise.



Looking for the Honey Store

BRADFORD COUNTY — Towanda recently had a surprise visitor; in the wee hours of morning a bear swam the Susquehanna River, climbed the steep steps of the courthouse for a better view of the town, and was last seen window shopping along main street.—District Game Protector W. A. Bower, Troy.

Got a Point There

CUMBERLAND COUNTY — Recently I was talking with a local sportsman about placing deer crossing signs along a section of county highway where a large number of deer are annually struck by vehicles. The man finally replied, "The deer can't read the signs and the motorists don't pay attention to them, so what's the use of putting them up?"—District Game Protector E. Utech, Boiling Springs.

Bald Visitors

On October 18, I spotted an adult bald eagle in the Shenango Area of Mercer County. Later, another adult and a juvenile sailed by and the one I saw in the tree soon followed, heading south.—Land Manager D. W. Gross, Chapmanville.

Comparing Notes, States

CLARION COUNTY — My brother, who lives in Wisconsin, recently came home to hunt turkey. He purchased a nonresident license and thought he was getting a good deal, considering a resident license and tags in Wisconsin cost him \$33 and he doesn't get to hunt turkey. This past week, a conservation officer from Wisconsin stopped to visit and said their nonresident fee is now \$100. We compared notes for the afternoon, and I believe we have it better in Pennsylvania from every aspect—except that game law penalties are higher in Wisconsin and a deer violation there carries a mandatory 10-day jail sentence.—District Game Protector G. J. Couillard, Clarion.

Where's Friar's Truck?

YORK COUNTY — While on patrol Halloween night, Deputy Arlington Ernst noticed an oddly dressed man crouching at the rear of a car. A woman was hiding in the shadows. Ernst stopped and asked if anything was wrong. The man said, "I'm Robin Hood. My wife and I were at a masquerade party and I locked myself out of my car." Deputy Ernst replied, "I'm Little John. Can I help you?"—District Game Protector R. L. Yeakel, Red Lion.

Beavers Besting Bucks?

LYCOMING COUNTY — While examining a fenced-in planting on State Game Lands 30, we noticed we had a problem. Even though the fence was keeping deer out, it wasn't doing the same for beavers. They were going under the fence, cutting the only available aspen trees and dragging them back to their dams.—Division Forester P. E. Confer, Jersey Shore.

Fricasseed Dog

HUNTINGDON COUNTY — On the opening day of small game season in Huntingdon County, a "frantic" lady called in that her little dog had run into a thicket barking at some hunters. She heard a shot and no more barking. Then she observed the hunter "skinning her little dead dog." A deputy dispatched to the scene to investigate determined that the hunter had shot and skinned a raccoon. The "little dead dog" returned to its owner with not a hair out of place.—Law Enforcement Assistant J. D. Moyle, Alexandria.

Immediate Benefit

For years I've felt youths should be allowed to hunt with any responsible adult, so I was glad to see that the law regarding this was changed on September 8, 1975. It didn't take long for this change to benefit my family, as my neighbor Chet Laskoski took my son Eric on his first turkey hunt. They went to Elk County on November 1, while I was on office duty. Eric came home with a nice wild turkey—his first—and a story about an hour long about the hunt.—Conservation Information Assistant J. A. Badger, Ligonier.

Well, Sort Of

LEBANON COUNTY — Elwood Camp was one of the trainees assigned to work with me for field training. He was plenty helpful and learned a lot, but his last name created a problem. When he answered the phone he would say, "Game Protector Hilbert's, Trainee Camp speaking." Then there would be a pause, and the caller would ask, "Did you say Hilbert's Training Camp?"—District Game Protector P. A. Hilbert, Cleona.

No Place Like Home

Last October, I went duck hunting in northern Saskatchewan. On the 4000-mile automobile round trip, not one live deer was seen until I got within a half-mile of my home in Allegheny County, where four deer crossed in front of the car.—Land Manager R. B. Belding, Baden.



New Hunting Mode

CRAWFORD COUNTY — Before shooting hours on the first day of general small game season, Deputies Bill Ritts and Larry Moore heard a shot, then some clanging and banging. When they investigated they found a young man on an aluminum extension ladder which was leaning against an oak tree. He had climbed up and stuck his head into a large hole in the tree. Deputy Ritts asked the young man what he was doing. He replied that he was hunting raccoons. He was trying to reach in the hole, grab the raccoon and put it in a bag. The man also said he was new at hunting raccoon. Bill and Larry already realized that. I'll let each reader visualize what might have happened had the hunter reached into the hole and grabbed a live raccoon while standing on that ladder.—District Game Protector H. L. Harshaw, Conneaut Lake.

"Strained" Field Note

CAMBRIA COUNTY — I was going to write a Field Note about the 13 hunters who hunted in my Safety Zone on the first day of small game season. I was also going to write about the four who hunted there on the first Monday and killed a rabbit. I have decided against it, though, because I am so mad I would probably write my true feelings and then **GAME NEWS** couldn't print them.—District Game Protector J. W. Jenkins, Patton.



Bear Vandalism

POTTER COUNTY — Phil Young of Germania had an early-morning visitor recently. Hearing the garbage cans rattle, he looked out the bedroom window and saw a large black bear. The bear climbed up on the roof of Young's new car, sat down and started bouncing. Then he slid down the front and bit the rubber bumper and knocked off the side mirror. When Phil looked at his car the next morning, the roof was caved in and the paint was scratched over the whole car. When Phil took it to a garage, the repair estimate was \$508.—District Game Protector R. G. Clouser, Galeton.



End Up in Centre County

JUNIATA COUNTY — On the first day of small game season, I spotted a buck running full tilt, apparently scared by some hunters. He had a long cornstalk tangled in his antlers. The stalk was streaming out behind him, with the roots right over his rump. Every time he tried to slow down, the roots would drop and tap him on the rear, and away he would go again. I watched him go for about 300 yards and he was still in high gear. Unless he sheds that cornstalk, he might be running forever.—District Game Protector R. P. Shaffer, Mifflintown.

A Different Harvest

FRANKLIN COUNTY — I had the unexpected pleasure of checking two small game hunters last fall with rather unusual contents in their "game bags." Both of their coats were filled with empty beverage cans and bottles they'd picked up from the property of their host for the afternoon. More activity of this sort might help to bring down some of the "No Hunting" signs that have been sprouting up in our area.—District Game Protector F. B. Clark, Fayetteville.

10-7 = Out of Service (Retired)

BERKS COUNTY — During a public tour of State Game Lands 110 in October, an elderly gentleman stated that the last time he had been in the area he traveled in a horse and buggy. At that time the road was so poor that the horse had to be unhitched at one point and driven around a deep ditch. The road in question had been a public highway from Shartlesville, Berks County, to Jefferson, Schuylkill County. My first visit to the area was in February, 1937; at that time a WPA Project was working on the road and it was not passable to any vehicle. That seems like a long time ago. After 39 years and three months of service to the cause of conservation in Pennsylvania, this unit will now be 10-7. It has been a most rewarding experience.—District Game Protector J. A. Leiendecker, Reading.

Poaching Accident

SCHUYLKILL COUNTY — October started off with a bang (no pun intended). A Zion Grove resident decided he wanted to get a deer before the hunting pressure increased. With the assistance of his neighbor he killed a doe about 7 a.m. on October 1. He then signaled his neighbor, who was driving for him. As the "hunter" was bending over the deer, dressing it out, the neighbor approached from behind and accidentally discharged his rifle. The slug struck the deerslayer in the right buttock and exited in the groin area. Some particles of the bullet entered his liver. Our overanxious hunter nearly lost his life on the operating table—quite an expensive price to pay for some illegal venison.—District Game Protector S. L. Opet, Tamaqua.

It's Tough Explaining

PERRY COUNTY — One of the most difficult parts of being an adult is trying to explain to young people the reasons behind certain persons' actions. Try explaining to two young boys why someone shot a red-tailed hawk within 20 yards of their barn, a bird they had been watching all summer and early fall. Try explaining to a crying little girl why someone shot a green heron she was watching with binoculars. Or try to explain to a young duck hunter why someone would shoot a great heron, jump in his boat and leave. Why? I just don't know.—District Game Protector L. L. Everett, Newport.



Say Just Whatcha Mean

WAYNE COUNTY — While en route to meet with Food & Cover Foreman Anke, I ran out of gas. I stopped at a farm house and asked if they had a five-gallon can I could borrow. Farmer said he'd look around. Meanwhile, I called Anke to tell him I would be delayed. I returned from the house and was told that they did not have a five-gallon can. But I'd noticed a gas can sitting in the corner of a shed that I thought would do the job. I was advised that I had asked for a five-gallon can, and the can I spotted held six gallons.—District Game Protector F. G. Weigelt, Galilee.



By Ted Godshall

Lichtenberger Retires



Robert S. Lichtenberger

ROBERT S. LICHTENBERGER, Deputy Executive Director for the Game Commission, retired September 5, 1975, after 39 years of service. His commission career began

July 26, 1936, when he enrolled in the first game protector class at the Ross Leffler School of Conservation. After completing training, Lichtenberger remained at the school as resident instructor for the second class.

Lichtenberger, born in Enola, worked as a game land technician after leaving the school and then entered the U.S. Army. He served with the Military Police during World War II. After his discharge, Lichtenberger held a variety of positions at the commission's training school and in the field.

He came to Harrisburg in 1953 as Pittman-Robertson coordinator, and then returned to the field as superintendent of the Howard Nursery. He came back to Harrisburg as supervisor of the Food and Cover Section, and then served as a game land manager before being named chief of the Division of Administration. He held his final position, deputy executive director, for ten years prior to his retirement.

Tentative Opening Dates Set for '76

Tentative opening dates for 1976 hunting seasons have been established by the Pennsylvania Game Commission for the convenience of sportsmen who have to schedule vacations in advance.

The archery deer season is tentatively scheduled to open on Saturday, October 2.

The tentative opening date for the early small game season is Saturday, October 16, while the general small game season is tentatively scheduled to open on Saturday, October 30.

Tentatively, the bear season is scheduled to open on Monday, November 22.

The antlered deer season opening date was previously established by commission action as the Monday following Thanksgiving, November 29, 1976.

Days of Yore



STALEY HUNTING CAMP in the South Mountains of Franklin County, with four nice bucks taken in 1921. Kneeling—R. Harvey Staley, Mayberry Naugle, Jack Staley, Seward Staley, Mark Staley, Dan Staley; standing—Lewis Staley, Jim Wagaman, Dr. Marshal, Dr. Rothrock, Knap Naugle, Harry Barnes, Cooper Ressler, Frank Gardner and George Staley. Photo from Crawford Staley of Reading.

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HUNTER EDUCATION

By John C. Behel
PGC Hunter Education Coordinator



ALAN NASTELLI, Chris Peabody and Dave Nastelli, Blosserville Scouts, present the PGC's Hunter Education exhibit at Carlisle.

Skill-Orama HE Exhibit

BOTH HUNTERS and non-hunters recently received a lesson in identification to sharpen the mind and reinforce the fact that the eyes sometimes play tricks on the brain. Blosserville Scout Troop 169 presented the Game Commission's Hunter Education and "What Do You See?" exhibit at the Carlisle Mall and showed many hunters and non-hunters that they don't always see exactly what they *think* they see.

"Not everyone believed us," said Ron Baughman, leader of Troop 169, "when we explained what people should see in a test of identification. Our explanation in developing proper hunter attitude created awareness and good response and participation. Many were unsure of what they

should see, and some were so fixed in their opinions that they couldn't determine some of the hunting situations."

To back up the Blosserville scouts, Dr. Frank Anthony, associate professor of agricultural education at Penn State, explains what he's discovered through hunter education. In developing the "What Do You See?" study in cooperation with the Game Commission, Dr. Anthony found that some people are "foxed" in their opinions, even to the point where they will argue when they know they're wrong. Dr. Anthony stresses that what you really see is important, particularly to hunters, for if they make a mistake, the results can be fatal.

The use of fluorescent orange was

also highlighted, demonstrating that it's the best method for identification. Mannequins were displayed in regular hunting dress and in fluorescent orange for comparison. Safe and unsafe signs were placed by the mannequins. The fluorescent orange was always noticed, but many persons did not observe camouflaged mannequins partially obscured by trees.

The Blosserville exhibit reinforces Pennsylvania's hunting accident statistics, with hunters in camouflage or regular brown or red hunting dress more often involved in accidents than those wearing fluorescent orange. Reports show that hunters wearing camouflage or regular brown hunting clothing are often shot in mistake for game. Each year, about as many hunters wearing red are the victims of "mistaken for game" hunting accidents as those wearing camouflage or regular brown or gray clothing.

Hunter education training presented by Blosserville scouts also called attention to personal responsibility in the adoption of a hunter's or sports-

men's code of ethics, which follows:

1. I will consider myself an invited guest of the landowner seeking his permission before I hunt.

2. I will obey the rules of safe gun handling and insist that others who hunt with me do the same.

3. I will obey all game laws and regulations.

4. I will do my best to acquire marksmanship and hunting skills.

5. I will support conservation efforts to assure good hunting.

6. I will pass along to younger hunters the attitudes and skills essential to a true sportsman.

After learning about hunter education and observing safe gun handling during the Skill-Orama, many individuals are alerted to how "mistaken-for-game" hunting accidents occur. These accidents shouldn't happen—remember to be sure of your target and *always* wear fluorescent orange. The scouts stressed this, and we had a good response from both hunters and non-hunters during a busy weekend at the Carlisle Mall.

Books in Brief . . .

(Order from publisher, not from Game Commission)

The following paperbound books are available from Stoeger Publishing Co., 55 Ruta Court, South Hackensack, N.J. 07606.

Gun Trader's Guide, 7th ed., by Paul Wahl, 254 pp., \$6.95. Profusely illustrated volume that identifies and gives average current market values for most rifles, shotguns and handguns in these categories: (1) now-discontinued models which were produced in 1900 and/or subsequent years to date, (2) currently produced models on the market for more than five years.

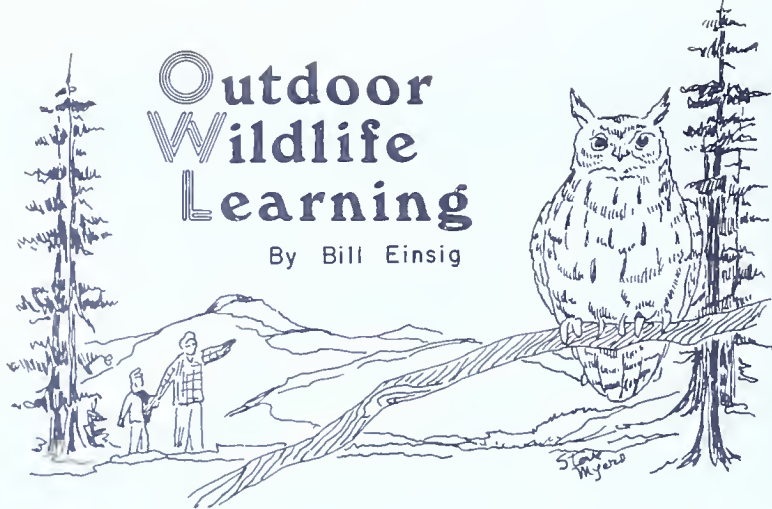
The Practical Dog Hunter's Book, by John R. Falk, 314 pp., \$5.95. Tells how to decide what kind of hunting dog you want, how to choose one, how to train him—both preliminary and advanced methods—and even discusses such esoteric yet interesting subjects as "can dogs think?"

Hunting Upland Birds, by Charles F. Waterman, 311 pp., \$5.95. Waterman is a true expert in this area and he covers all the birds from quail and doves to turkeys, then throws in good dope on rabbits and squirrels, guns and dogs, with even some suggestions on finding places to hunt.

The Hunting Rifle, by Jack O'Connor, 314 pp. \$5.95. Nobody knows more about this subject than O'Connor, and this book summarizes the strengths and weaknesses of all classes of cartridges from the 22 rim-fires to the 375 Magnum, with semi-technical as well as practical data on them. There's added material on accessories such as scopes, and good advice on how to shoot.

Outdoor Wildlife Learning

By Bill Einsig



Outdoor Activity

Many times "simpler" is "better," and the simple outdoor activity mentioned here could turn out to be one of the most revealing you have ever tried. On your next trip to a natural area, disburse the students where they cannot see each other and ask them to just sit there for half an hour and make themselves aware of everything that happens around them. A section of trail is ideal for this because you can start as a group and position students as you walk. The first student dropped should have a watch so he can tell when it is time to start up the trail, accumulating students as he goes and meeting you at the other end. It is amazing how many secondary students will say they were never alone

We're concerned about teachers and youth leaders of all kinds who recognize the need for sound environmental education programs at the local level, especially programs relating to our wildlife resources. The hullabaloo about ecology is over. Most school districts have either settled down to implementing environmental programs or have forgotten the issue altogether. We want to help those of you who care enough to do something—thus this column. Our intention is to suggest interesting activities and to keep you posted on available teaching materials. Bill Einsig will scan the broad publishing field and bring the best to you in "OWL." If you have any ideas, send them along. A lot of youngsters need our help.

this way before, or how frightened they were at first. Many will see things they were too busy walking over earlier to notice, and some won't be able to wait to tell you about the chipmunk they saw or the bass that jumped right in front of them! Isn't that what being outdoors is really all about?

Activity Information

The state of Florida should be commended for the many fine materials prepared by individual county school boards. Most of these activities have been written by teachers through programs supported by federal funds. The ideas are practical, flexible and to the point, without the usual educational rhetoric. One such effort is "Interdisciplinary On-Campus Environmental Activities," a 40-page booklet published by the Polk County School Board.

The suggested activities can be followed in or around the average school. They are mostly for elementary levels but, because of their simplicity, can be easily modified for any grade level. Awareness activities, skill activities, games, an attitude survey—all in one valuable booklet.

For more information write to: Polk Environmental Resource Center, Auburn Dale, Florida.

Maple Syrup Time Is Here!

From late January to March, maple trees can be tapped for their sugar-

rich sap and provide any class, troop or organization with an interesting and unique outdoor exercise. Sugar maples are the favorite for tapping but sap from other maples can be used as well, so almost any neighborhood can supply enough sap for the project.

The procedure is quite simple. Spiles (small spouts) are inserted into holes bored into the tree trunk and dripping sap is caught in a clean container. Each day, or more frequently during high-flow periods, the sap is collected and boiled to evaporate excess water. Concentration of sugar in the syrup is determined by the boiling temperature, which increases as the density increases. A boiling temperature of approximately 220° F indicates the proper sugar level for maple syrup. After boiling, the syrup is filtered through clean wool and sealed in jars while at a high temperature to prevent contamination and subsequent spoilage.

While basically simple in theory, the project requires careful planning. How many trees? Who will collect the sap? When? How will it be boiled? Don't plan on collecting sap for two weeks and boiling it all on one day. The sap will not keep that long. It is better to tap a large number of trees for just a day or two, getting a little from each, and then boil it all on one day.

If you teach and have to write a proposal for such a project, don't forget to use adjectives like "innovative" or "interdisciplinary." Every subject area can become involved—social studies, home-ec, industrial arts, math, science. With a little imagination, this can be a total school project!

For a more complete (but practical) source of information, write to Dr. Terry D. Rader, 111 Ferguson Building, University Park, Pa., 16802. Ask for Bulletin Number 16, "Maple Products," in the Pennsylvania Forest Resource Series.



BILL EINSIG has earned the expertise that qualifies him to do the "OWL" column—both in the field and formally. A graduate of Millersville State College with a master's degree from Florida Institute of Technology, he now teaches at West York Senior High, spends his free hours in the outdoors.

Montour Preserve

If you are interested in making maple syrup or sugar and would like to see the process in operation before you attempt it on your own, plan to visit the Montour Preserve north of Danville in Montour County. The public is invited each spring to observe the entire process from tapping to tasting.

The preserve is a 1000-acre property owned by Pennsylvania Power and Light Company and includes a 165-acre reservoir. Areas for boating, hiking, fishing and picnicking are provided, but camping, hunting and off-road vehicles are prohibited. A large portion of the preserve is managed as a refuge and propagation area for waterfowl. Several excellent blinds are provided for close observation of the wide variety of birds that stop over on the lake during the spring migration in March, April, and May.

For more information on the maple products program and the preserve in general, write to: Harry T. Barnes, Director, Montour Preserve, RD 1, Turbotville, Pa., 17772.



"Swing... and Lead?"

By Susan M. Pajak



AS LONG AS she can remember, friends have told Susan Pajak that to hit a flying target she must "lead it three feet"—but that doesn't always work for her.

brush in my hands and that every thing that flapped or flizzed thru the air would have to be led that puzzling three feet.

As a result of this saintly practice I seldom hit anything. If I did, I attributed my success to the fact that the pheasant, dove, or claybird must have died of fright in mid-air. My partner would yell, "Good shot!" while I stood there wondering how it happened.

Time and Discovery

Time and a discovery has since covered over a few of my blunder-filled days; the discovery being the realization that I for one could not handle a shotgun exactly by swinging it all over the place nor did I have to "lead it by three feet." My learning years were often full of tears; no one appreciates being thought of as a less than adequate shotgunner.

But it now appears that a few others might profit from my "no lead and put the bead on the bird" method of shotgunning. A letter from Walter J. E. of Pottstown reads in part "... this will be my second year to attempt to bring down any web-footed game birds. I base my progress so far on rotten shooting."

Now I simply can not go along with this reader saying that he is a rotten shooter. Truly, I suspect that he has been figuratively drowned in the eternal suggestion of "swing it like a paintbrush and lead it three feet"—a suggestion that has been attached to the shotgun since the day it was invented.

It probably never occurred to the reader that perhaps he, as an in-

EVER SINCE day one of my shotgunning adventures—that being eons ago—well-meaning friends and even everyday passers-by had pounded into my small but beautiful head that if ever I expected to hit anything with the shotgun I definitely would have to "lead it three feet" and swing the gun like a paintbrush.

For a time I dedicated myself with saint-like application to learning this method of shotgun handling; I pretended I had a 47-inch paint-

GIRLS, GUNS, & GAME...

dividual person and shooter, can not swing and lead as **such**; that he will have to **adjust**; that perhaps he should put the bead on the bird, continue to move with the bird and then pull the trigger.

Or maybe he is more a point-and-pull shooter, or a poke-and-pull shooter. But like others he could not bring himself to question the validity of this sometimes sour "swing and lead" business.

Whatever sacred system of shotgunning may work for a majority of shooters, there are, and forever will be, those grand individuals like Walter that it will not work for . . . exactly. We all do not march to the same drummer nor do we all stay in step.

A Few Theories

Offered now are a few theories that are sure to fill my mailbox with letters of stinging substance. First of all there is no way in the world a game bird is going to fly faster than those little pellets from the shotshell. This, surely, we agree upon. But what we tend to forget at times is that the flapping of the wings of some game birds makes us think it is moving at a terrific rate of speed, and therefore we hurry up and shoot. And miss.

Think of this for a moment: something flying or traveling at 1200 feet per second is going over 800 miles per hour. Figure this to be your shotshell.

Another something flying, say, 88 feet per second is moving at only 60 miles per hour. Figure this to be a

claybird. Your shotshell load, which starts out at some 818 mph had better overtake that claybird (duck?, dove?) going only 60 mph or else a lot of books will have to be rewritten. The point: the shot pellets can always overtake the target, or object, so there is no need for you to be concerned as to whether or not it is going to reach the bird.

You must, however, remember to **follow, or move, with that bird** and never stop moving your gun, because if you do, for even a tenth of a second, you will miss.

Here is my suggestion, and while I don't expect it to work for the majority it probably will work for a few. Try putting the bead of your shotgun on or just a bit below the bird (if your gun is stocked to shoot a bit high), move with the bird, pass through it (not necessarily three feet, though), and then pull the trigger at that moment of time that your brain tells you everything is okay.

Above all, your shotgunning movements must be fluid—a symphony of gun to shoulder, stock to face, eye to bead and bead to bird. Anything even minutely less will result in missed birds (how well I know!).

Happy New Year!

1976 Northeast Fish and Wildlife Conference

The 1976 Northeast Fish and Wildlife Conference will be hosted by the Pennsylvania Game Commission and the Pennsylvania Fish Commission at the new Hershey Convention Center in Hershey, Pennsylvania.

General Chairman Harvey Roberts, Deputy Director of the Pennsylvania Game Commission, has announced that the dates of the Conference are April 26 to April 29, 1976.

It Tastes Good and It's Easy!

By Les Rountree



RAW MATERIAL for smoking—a pheasant and a woodcock. Both are terrific as smoked delicacies, as are other kinds of game and fish.

NO ONE KNOWS the exact moment in history when humans decided that smoked meat was good to eat. The Indians were smoking fish and game long before the white man hit these shores, and it was probably practiced in most European countries long before then. It just may have begun when some caveman accidentally allowed some woolly mammoth meat to hang too long beside the fire. Regardless of the origin, smoking meat has been practiced a long time and probably will continue to be

popular as long as there are people around to eat it.

Smoking meat can be the simplest operation in the world. Good quality smoked meat can be made with nothing more than a cardboard box and a few sticks. Smoked meat can also be produced in an elaborate masonry smokehouse that is built to last 200 years. Many colonial farms featured beautifully constructed smokers that have stood the ravages of time and are still operable.

Our ancestors liked smoked meat but they had another reason for treating meat this way. It was one of the best means of preserving animal flesh that they knew. They had four basic choices in the days before refrigeration or mason jars. They could eat the meat fresh, pickle it, jerk it (air dry) or smoke it. Fresh meat would not last long in the summer time and the vagaries of fall weather, the traditional butchering time, did not guarantee that good quality would be retained for long. Pickled or salted meat was okay for a meal once in awhile, but as many a colonial soldier would have testified, it lost its appeal after a few weeks. Smoked meat was preferred because it tasted better and kept longer.

Deep freezers, refrigerators, freeze drying and modern canning methods have eliminated the dependency on smoked meat, but as a change of pace thousands of Americans are rediscovering just how good smoked vittles can be. One of the reasons that a new interest in smoked meat has come about in recent years is the availability of the small, inexpensive, electric smokers. These little aluminum units are offered in a dozen different mail-order catalogs and are rapidly be-

coming a standard item in many retail sporting goods stores. Nationwide, they sell for about \$30 and all are basically the same. I've tried two different brands in recent years, the Outers and the Little Chief. They both work exactly the same way, with a little hot plate in the bottom that generates just enough heat to make the hickory chips smolder slowly. Inside the box are four metal racks on which the meat is placed. Instructions come with each smoker and it's nearly impossible to make a mistake.

Anyone who hunts or fishes ought to have a smoker. It's a great way to utilize some of the birds and mammals that appear a bit too aged for standard cooking techniques. That doesn't mean that only the old, tough critters should be relegated to the smoker. Far from it. The young, tender animals that would be good fixed another way are also delicious when smoked. They merely require less smoking. So far, I've smoked geese, ducks, squirrels, rabbits, pheasant, venison, fish, oysters, clams, chickens, chicken livers, domestic turkeys and Cornish game hens. If you're not a hunter or can't wangle a piece of game to smoke, don't worry. Domestic fowl and other meats available in the supermarket will also take on a new character when smoked. Cornish game hens, for example, become elegant banquet fare when dry cured and lightly smoked. The final cooking can be done in the oven after the birds are removed from the smoker and the aroma that drifts through the house will make all diners pay attention to the kitchen.

Here's how to handle domestic game hens. Liberally cover with Basic Seasoning, inside and out, and

let sit overnight in the refrigerator. The Basic Seasoning mixture is made by adding small amounts of onion salt, celery salt, garlic salt, paprika, black pepper, dill weed, monosodium glutamate, white sugar and dry mustard to table salt. Mix thoroughly and store in a covered jar for several days before using, to marry the flavors. Smoke the game hens for about three hours, using three pans of chips. Then transfer the birds to a 325-degree oven, baste with butter and finish cooking them (about one hour).

Mistakes Impossible

Wild pheasants, chukar partridges, ruffed grouse and wild turkeys can be treated in exactly the same way. Different smoking times are required for the large birds, but the beauty of the smoking process is that it takes so much time that a mistake is almost impossible. Checking the birds every half-hour or so is usually enough. When the legs on whole birds are slightly movable and the birds take on a rich, golden color, it's time to pop it in the oven. Too much smoking reduces the size of the bird and makes the taste a little too smokey for a main course.

Of course, if you want to, the bird can be left in the smoker for 12 hours or more and served, thinly sliced, on crackers as hors d'oeuvre material. Great appetizers. *How* you intend to eat the smoked meat is the guide for length of smoking time. Two to four hours will permeate the smaller birds with the smokey taste but they will not be cooked thoroughly. They'll have to be oven roasted for at least an hour more. Six to 12 hours of smoking will entirely "cook" the bird and reduce it in size. All of the moisture will be soaked out and the meat will be solid protein.

Some domestic birds will lose nearly a third of their bulk when smoked for a long period of time. I remember how surprised I was in early smoking days to discover that a whole venison backstrap was a mere eight inches





LARGE TROUT, foreground, was smoked whole. An ambitious undertaking, but typical of what can be done with a little experience.

long after being smoked for eight hours. It went into the smoker a big, plump strip of tenderloin and came out looking like a rather small sausage. But was it ever good! Sliced thin on rye bread with a dab of mustard, it was some of the best smoked meat I ever tasted.

Armed with the instructions that come with these electric smokers and at least one good book on the subject (*Home Book of Smoke-Cooking Meat, Fish & Game*, Stackpole Books, Harrisburg, Pa. 17105, \$7.95, by Hull and Sleight, is excellent), the imaginative cook can go hog wild with experiments . . . and most of them turn out great. For example, just last fall I brought home a squirrel that nearly required two bulldozers to remove the skin. That critter was almost old enough to vote and Ann suggested that he be soaked in brine and smoked. I cut the squirrel into the five typical frying-size pieces and tossed him into the brine overnight. The marinade was equal parts of red wine and water, $\frac{1}{4}$ cup salt, 4 tablespoons sugar, $\frac{1}{2}$ teaspoon pepper, 1 crushed garlic clove, 1 small crushed onion and 1 tablespoon monosodium glutamate. The next day, after smoking for two hours and oven finishing

for two more, the meat was still a bit chewy. We came up with a brainstorm (not really, since we had done the same thing to a tough duck the year before). Why not grind up the meat and make a squirrel pâté?

Stripping the meat from the bones, the old grinder was brought into use and the ground meat resulting was mixed with an equal amount of softened butter and a couple tablespoons of brandy to moisten and served to guests as Smoked Squirrel Pâté. With no modesty whatsoever, I must report that all who ate it pronounced it excellent and asked if it was available commercially! That's the beauty of smoking your own fish and game. It can't be bought—and thank goodness for that. Such stuff is too good for “outsiders.”

The book mentioned earlier lists a number of good brine recipes as well as dry cure concoctions. But you can improvise here too. The addition of small amounts of the flavorings you especially like can all be added to the brine or the dry cure, and experimentation will prove what works best for you. I like to add a touch of cayenne pepper to many smoked meats. It adds a little “bite” that provides some excitement. Curry powder adds an oriental touch, and garlic, marjoram, dill, onion and Tabasco can all offer subtle or powerful flavor. Caution: all extra condiments should be added in small amounts. The smoking process amplifies the flavor and too much Tabasco, for example, will make your eyes light up.

The basic brine for all meat is usually nothing more than equal parts of salt and sugar in enough water to cover the meat. Four quarts of water in an earthenware or enameled pot (don't use a metal container) will cover two pheasants. A half-cup of salt and a half-cup of sugar will do the job nicely. If you like a more pungent taste, use brown sugar instead of white. I like the taste of brown sugar with fish, pheasant and venison, but prefer white sugar with most other meats. A bay leaf is al-

most always added and so is a generous amount of freshly ground pepper.

If you have large quantities of domestic or wild meat to smoke and the little portable electric jobs are too small for your needs, you might consider building one. The best thing around is an old refrigerator or electric range. It doesn't matter if nothing works . . . all you really need is the inside space and the insulation. You need an inexpensive single-burner hot plate with a heat control switch and, depending on where you park the smoker, a length of electric extension cord—the outside type. Drill a small hole in the base of the old appliance to accommodate the cord and several vent holes in the top and you're in business.

Buy some prepared hickory chips or pick up some hardwood sawdust at the closest sawmill. Make sure it's dry and contains no conifer dust (pine, hemlock or cedar). Fill a tin pie plate with the dust or chips and place the meat on the existing racks. The good insulation on most appliances built during the past 30 years will make it easy to smoke meat in short order . . . a bit faster than the commercial jobs. Watch the meat carefully the first few times you use your home-made smoker. You'll soon learn how to time it. If that glaring white refrigerator in the back yard looks too obtrusive, it can always be painted some other color.

If you're really ambitious and plan to live in the same house for many years, a permanent brick, stone or cement block smokehouse can be considered. An outside fire box with a thermostatically controlled burner can be added and a whole bunch of other automatic goodies. That's probably well beyond the ambitions of most of us—but on the other hand, considering the price of smoked ham these days, it may not be a bad venture after all!

In case you want to get rustic and



OUTERS SMOKER and similar small aluminum outfits do excellent job of smoking family-size portions. Hickory chips can be bought or cut by user.

smoke something the Indian way, a very efficient smoker can be built from small green poles and chunks of moss. I watched a Cree Indian build an excellent smoker in Canada a few summers back that really did a job on lake trout. He constructed a round igloo with green birch sticks inside to lay the raw fish on. They received nothing more than a handful of salt with pepper and were then smoked for about 12 hours with aspen and birch bark. He built a smokey fire at the windward side of the igloo and the smoke passed through a little tunnel of moss and mud. It worked perfectly and the fish were delicious. He told me that he did the same thing with beaver meat, but it took about two days to smoke it thoroughly.

For starters, I'd suggest the aluminum electric job. Smoke some of that leftover game in the freezer right now, or start out with chicken livers. It's good eating. You won't be sorry.



Trying to Fill Your . . .

TAG AT THE TAIL END

By Keith C. Schuyler

Photos from the Author



RIT HELLER uses pine tree for concealment as he waits for drivers to work their way through woods to his stand.

NEXT TO February, and it is, January is about the most useless month of the year for outside activities. There are exceptions, of course—for ice fishermen, skiers, and television ad addicts. And, there is one other activity which borders on the insane.

Bow hunting!

Why anybody would want to go bow hunting for deer in January is understood only by those who hunt deer with a bow in January. At its best, hunting for deer during this month is primarily relegated to the more courageous of those who haven't filled their tags. There are even those who have filled their tags who use the opportunity to help others as an excuse to go out in the middle of winter!

Actually, it's not so bad.

If you are fortunate enough to hit the usual January thaw, hunting can even be pleasant. Of course, you may start out with snow melting from the top of your car onto your windshield and end up coming home in a blizzard. Or, you may bundle up to avoid freezing at daylight and be wading slush by noon. You may also have slush around the middle of your insulated underwear where it slid after dropping down your neck from drooping pine boughs. You may learn that even the best snow tires won't give your vehicle traction on ice that has started to melt on top, especially on an upgrade. Similarly, brakes will do no more than stop your wheels on such surfaces on a down grade. But, you have until January 17 to fill that

deer tag. And most of us want to.

If there comes a time when you question your own sanity, just look around you. There are lots of—well, *some* others out there doing the same thing.

Chances of taking an antlered deer are quite diminished. Most bucks lose their head adornment before January. And, of course, the proportion of bucks to does has been even more reduced through normal hunting pressure.

Except for fawns born too late in the spring, many have reached a size that doesn't distinguish them from smaller does. This is even more true in the counties where adult deer normally do not grow as large as in some areas of better feed.

But, you know, if you *do* score, you're one of the big heroes or heroines of the whole blamed season. Here's why. First, there aren't nearly as many deer around as there were in that easy October when you missed. Second, these deer that are left are right smart or they wouldn't still be running around after all that bowing and gunning in late September, October, the first half of December and Christmas vacation week. If you can collect in January, well . . . !

If you are like me, you wear out more darned license tag holders from just carrying the cards around through all those months in fair weather and foul. In fact, last year I got desperate and stopped off 100 miles or so north of Milwaukee, Wisconsin, to spend a couple days hunting with "Archery World" editor Glenn Helgeland and his wife Judy. We shifted over to the hunting home of Bob Skiera, technical editor for the magazine, and ate out of his pantry while his wife, Pat, did the laboring-over-a-hot-stove bit

for all of us. With his daughter, Sandra, aged 10, we did some deer driving, Wisconsin style.

It was their late season for bow hunters, and the Wisconsin weatherman isn't any better than ours. We slugged through snow 14 inches deep on a Monday, which also prevented the Skieras from getting Sandy back to school since they had to wait for snow plows. After one grueling drive, Pat said to her young daughter, "Well, Sandy, this is better than going to school, isn't it?"

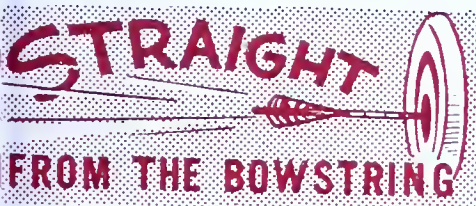
Worth the Trip

Sandra fondled a snowball for a moment before replying. Her answer was worth the trip. "Yes, but not by very much."

Now you might get to thinking about that warm TV set when you have snow stinging your face or water creeping into your boots. But even though deer hunting in January doesn't beat all your other pleasures "by very much," as long as it comes first, you've got it made. Just remember that what you hear over the radio and see on the boob tube is all canned stuff. Somebody else is doing it or has done it. But, *you* are doing this. Right now. At least, you are trying to do it.

Don't be discouraged. Although none of us scored in Wisconsin, and I have yet to take a deer (at this writing) during any January, some of my very best misses have come in the late season in Pennsylvania. This modest confession is only to indicate that it is possible to get shooting, good shooting, after all the other shooting is over.

Even on the solitary approach you have a lot going for you. January seldom passes without snow. Snow provides tracks. Initially, all that is necessary is to find deer tracks and discover where they go. You are likely to pick them up in a worked-over cornfield, cut-over timber, a pass-over between two mountain humps, or a pass-through between two woods patches. Somewhere along those





ARCHERY WORLD editor Glenn Helgeland shows his wife Judy which way drivers will come. Schuyler was their guest on winter hunt.

trails, the deer bed down. All you have to do is plant yourself somewhere along a good, well-worked trail, where there is sufficient cover to hide your bulk and a breeze to carry away the stench of your after-shave lotion, and wait.

Sooner or later a deer will come along. Assuming, of course, that you have picked a well-used trail and the deer hasn't been spooked into the next county by a stray dog, a snowmobile, or a tax collector.

One hunting challenge that is denied the January bow hunter is the sport of stalking an individual animal. With snow on the ground there is no way a bow hunter is going to approach within shooting range of a healthy animal. Two hunters working together might pull it off, but this is more in the nature of a drive. Nevertheless, since tracks do indicate the usual route of any given animal or animals, as few as two hunters do have a reasonable chance to score through cooperative efforts.

Otherwise, solitary hunting must be confined to waiting them out at a likely stand. Deer do continue to move early and late, although their patterns might vary somewhat from

those used earlier in the seasons.

Some hunters like to wear white clothing when there is snow on the ground. This is fine, if you can carry it far enough that you actually blend with the snow.

However, since everything that isn't white in winter is black, or nearly so, it would seem that an all-black outfit should work about as well. On dull days every tree trunk looks black, and you can create the appearance of an old stump in any all-dark outfit as long as you don't mess it up with a club patch, or a badge, or a scarf, or a hat that is white or bright and shiny.

Buckle to Back

If you like to carry a sheath knife fastened to your belt, turn the buckle so that it is behind you. You are, hopefully and usually, facing any deer that appears, and it can't see behind your back. Anyway, you have, or should have, your hunting license smack in the middle of your back and anything else you add won't make that much difference. It is what you have up front that counts.

A dab or so of burnt cork can help the fair complexioned and improve the general camouflage effect. Or, you can stick with green, or brown, or red, camouflage as long as it breaks up your outline. Large patches of one shade, regardless of color, are apt to attract the deer's attention to you, and the animal may figure out that you are a hunter before you get a shot off. A January deer doesn't stick around if it has the least suspicion that anything isn't right.

If you must wear gloves, be sure you have practiced shooting with them on. A tab, or bare fingers, provides a much better chance for a smooth release, but the temperature might preclude this advantage. Leather gloves tend to soak up the string when you put the pressure on, and you may find the string reluctant to go when you attempt a normal release. So, check this out before you risk your last shot to an unfamiliar item

of equipment. A bad release simply won't permit a good shot.

Be sure, too, that you have shot while wearing the outer garments you plan to utilize on your hunt. Bulky sleeves of some modern synthetics can catch bow strings and foul up a shot. If you have any question of string clearance, wear a bracer, or arm guard, or tape your sleeve so that no part of it can interfere with the string. Take care that the lower edge of a jacket can't catch between the string and the bow.

Letting some member of your family know where you will be hunting takes on added significance if you are going alone in January. Uncertainty of the weather can pose a real threat to your safety. In addition, there are far fewer hunters about, and the chance of getting help from this quarter is greatly diminished in the event of a mishap or sudden storm.

A simple thing such as the car failing to start, which would only be annoying in milder weather of autumn, can have serious consequences in mid-winter if you are far from habitation. A temporarily crippling personal injury may have permanent implications if it occurs when you are part of the winter scene.

Mishaps which would only be an inconvenience during moderate weather can easily become serious in January. Consequently, it is best to plan on only modest excursions if you are going it alone. If possible, try to get together with some of the gang who haven't scored previously. Whether or not you find action, you will have the fun and pleasure of going it together for whatever the day might bring.

Some of our more memorable hunts have been in the special season as a group. Frequently the gang is made up of hunters from a wide area who just enjoy joining up to share the tail end of the deer season. Admittedly, our score has been poor, but the hunt is usually rich in experience. There was the day, for example, a few years ago when we saw 95 deer.

A bit of pre-planning will usually provide enough excitement to keep everybody warmed up on the coldest day. Just getting to and from the stands is enough to heat up the hunters, particularly if there is a fairly heavy snow cover. Normally, drives and stands cover a much larger area than earlier in the season. One driver can effectively handle twice as much and more territory than when the leaves are on. Not only will his presence move deer out over a much larger section of woods, but also they seldom will attempt to sneak back through the drive as they frequently do when cover is heavy.

In fact, although it is common for good drivers to get as much shooting as the standers in the early part of the deer seasons, it is seldom that winter drivers get more than a fleeting glance at the deer they move out.

Good spots to stand are much more obvious. Deer will not stay in the open any longer than necessary to move to new cover. They tend to follow hedgerows, crowd any stands of evergreens, hit brushy ditches and



JANUARY THAW often makes hunting reasonably comfortable in this month, but snow can complicate matters for bow hunters at times.

any other protection they can find. If they must take to the open, they are usually traveling flat out and don't present much of a target to an archer.

The biggest mistake in winter driving is failure to realize how well sound carries and conveys every movement of the hunters. Everybody is out for a good time, and the tendency is to laugh it up. This makes for conviviality, but it doesn't enhance chances to take a deer.

Hear Everything

This is especially important when placing standers for the drive. Those deer hear everything that is going on within several times their area of concern in the earlier months. Further, since they have already lived through many weeks of being hunted, your movements and vocal sounds have much more meaning. They will hear you going on stand, but if individual dropoffs are made by only a nod or a pointed finger, and those still waiting to drop off keep moving until each takes his turn, the deer will know only that people have moved through the area. When they are pushed through the same area, they will not have pinpointed every stander and know how to avoid him.

One important point to bear in mind is that deer cannot remain bedded down all day if the temperature is on the low side. They must get up and move around a bit from time to time. So they are not as apt to lie still in the hope that you will pass without detecting them as when vegetation is still heavy.

One clue which works to the advantage of the hunter is the need

for deer to stay reasonably close to good feed. This may vary from a stark cornfield marked only by wind-swept stubble to red brush thickets and slashings of second-growth trees. The evidence will be plentiful. And somewhere not too far away the deer that made the tracks will be bedded down.

Unless they are pushed, deer will not expend themselves going long distances when the travel is rough. True, once they are pushed from their coverts, they will move considerable distances to avoid hunters. What may be a relatively short distance to a deer in normal travel may seem like a real hike to a hunter under winter conditions. Everything is comparative.

Although the better food areas around the high swamps will hold winter herds of deer, the animals will be absent from slopes and benches where they sun themselves in better times. Most have moved down into farming country where they can feed with a minimum expenditure of energy.

This does not mean they won't head for the high country if sufficiently alarmed. These amazing creatures have considerable reserve capacity for survival except when winter moves in too fast and too cruelly.

In total, the challenge of January is worthy of the most dedicated bow hunter. He has very little in his favor. *Any* deer that falls to the bow is truly one of the finest trophies of the seasons. All it takes is a certain amount of courage tempered with caution and respect for the elements. It is bow hunting at its worst—and sport at its best.

Morose Mole

The mole is a solitary, underground creature. Except during mating time individual moles rarely choose to live with other members of the same species

The Hunter's Gun Collection

By Don Lewis

Photos by Helen Lewis

“EVERY YEAR I make a resolution to buy a new shotgun, but there's always something gets in the way. If it's not a new appliance for the house, it's taxes or time to trade cars, and finally, there's no money left to buy the new gun.”

“I know what you mean,” I told my middle-aged visitor. “I've been down that road many times, and it's sure frustrating.”

“Yeah, but my problem is I've made the same resolution for nearly ten years, and still haven't bought a new outfit. My wife keeps telling me I have enough guns. Maybe she's right, since I do own a few, but it seems to me that adding a gun every year is the proper thing to do. Do other hunters suffer from this malady?”

“No doubt about it,” I said. “Over the years I've been writing, I've had many questions on how many guns a hunter should have, and almost every



AL COVALLO finds old M12 Winchester 16-ga. pump nearly perfect for his grouse hunting needs, as well as suitable for most other upland hunting.

hunter was plagued with the same desire you have. It's really a personal matter and depends on how financially fit a hunter or shooter is, so there's no way to put a figure on it. Come right down to it, a common 22, a single-shot shotgun and a military relic could be considered adequate. But I think a hunter's collection should cover a wider range, including several handguns.”

“Are you suggesting a lot of custom-made jobs that could bankrupt a fellow in a hurry, or do you think the average guy should buy every new gun that hits the market?”

“Nope,” I said, “you're missing my point. Maybe owning a vast number of rifles, handguns and scatter outfits



RUGER No. 1 Single Shot comes in many calibers, including the 375 H&H Magnum and 458 Winchester Magnum, shown. These are specialized outfits, not for the average hunter.

would be the ideal situation, but going to that extreme is not necessary. I'd say if a hunter has a particular type of hunting he enjoys, owning a few guns for that is not a bad idea.

"For instance?"

"Well, the dedicated grouse hunter might desire a short 12-ga. pump or a sleek new over-under, and he could go so far as to shell out a lot of cash for something in the custom line. And the duck hunter may want to supplement his favorite 12-ga. Magnum with the big 3½" 10-ga. Magnum."

"Are you saying that buying a gun for the sake of owning another gun is not your philosophy on building a hunting gun collection?"

"Now you're right on target. I think more enjoyment will come from a new gun if it has a definite place in the hunter's trips afield. Adding one should be the end result of careful consideration."

"We seem to agree so far," he stated as a horn sounded impatiently from the driveway. "Yet, I'm still confused on what type of collection the average hunter should have. I know you've been around many guns and have fired thousands, so I feel you should be able to throw some sensible light on this problem. Should I have ten guns or fifty?"

"No matter what I say, my feelings won't be shared by some, but I do think there are some guidelines to follow. Actually, it doesn't come down to how many guns should make up a collection or inventory, but what types, gauges and calibers. I have to

reiterate that quantity is not the prime requisite in building a hunting gun collection."

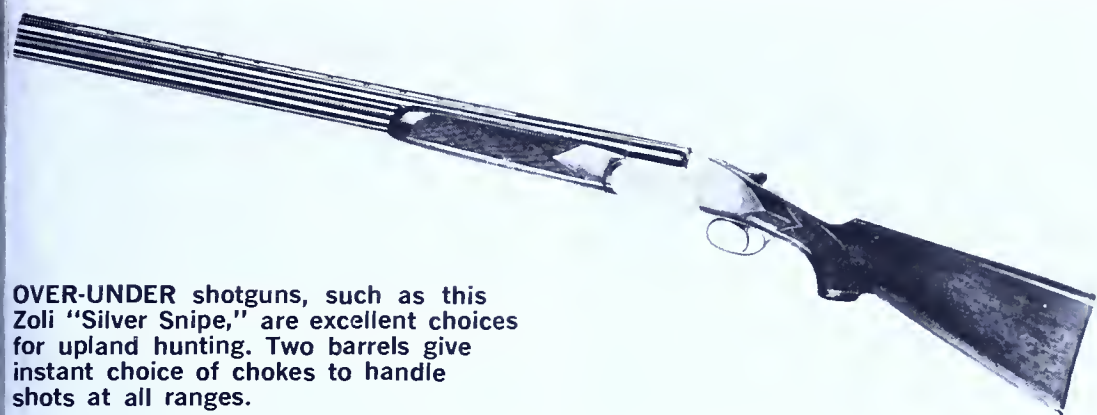
"Let me cut in with the idea that buying a 20-gauge to replace a heavy 12 might be sound thinking, since the 20 has just as large a pattern, shoots just as far and doesn't have nearly the recoil. That's something a lot of hunters getting past the 50-year mark may want to consider."

"You do have a point in one respect about pattern size, but some of the other suggestions aren't valid. Getting back to the pattern, it's true there is not much difference in area size between the two, but there is a sizable difference in density. The 12-gauge usually has many more pellets in its pattern and tends to cover the outer areas well, whereas the 20 lacks quite a bit around the outside. The hunter with the smaller gauge will not make as many kills with the fringe of the pattern, and I think that's important."

"You will have to admit there's a big recoil difference."

"Not nearly as much as old myths have led us to believe. I'm sure there is some, but here is where the hunter with the shotshell loading press can come up with loads that pattern nicely at normal shooting ranges and still





OVER-UNDER shotguns, such as this Zoli "Silver Snipe," are excellent choices for upland hunting. Two barrels give instant choice of chokes to handle shots at all ranges.

don't bruise the shoulder. I've never been a recoil pad fan but, properly installed, the soft pad helps. Sewing a 3x6-inch piece of rubber base carpet or heavy padding in the hunting jacket will make a noticeable difference, too. In fact, I like that idea more than the thick recoil pad."

"You still haven't answered my question about getting the 20-gauge. Would you say the 20 could be as effective as the 12, or would we all be better off to use nothing but the mighty 12-gauge?"

"I think you're putting me on, as it's well known I'm a 20-gauge fan and have been for years. I don't feel underpowered while using the 20, but I am aware of its limitations. I know I have to keep my target in the center of the pattern, and I shoot at shorter ranges."

"Wait a minute," my visitor snapped. "I thought you agreed with me that one gauge carries just as far as the other. Seems to me you're backtracking like a smart rabbit."

"No, I don't agree, but I will go along with you that there isn't much difference in the carrying ability of all the gauges. Even if it's only a few yards, that isn't conclusive proof the 20 will kill as far as the 12. We have to go right back to pattern density again. The hunter should pattern his shotgun at various hunting ranges to find out where the pattern begins to break up."

"Do you honestly believe something of value can be learned from patterning a shotgun instead of being more

concerned with learning to aim it? That can be a problem. Most hunters don't have as elaborate a setup as you do."

"Nothing elaborate is needed. A few sheets of newspaper tacked to cardboard is sufficient. Two or three shots should be fired at individual sheets from a dead aim to find out where the gun places the pattern in respect to the sighting arrangement. Then firing a half dozen rounds by whipping the shotgun to the shoulder and pointing at the target will indicate where the hunter hits in the field. I can assure you this procedure will have some dandy surprises in store for most hunters."

What Gauge?

"Before I leave, answer this. If you had to select one shotgun for the rest of your hunting days, what gauge would you pick?"

"As much as I lean toward the little 20, I'd immediately choose the 12-gauge. It's not a matter of personal likes or dislikes; it's simply ballistics."

"How do you figure that?"

"I've already answered it for you, but let's take a look at ballistics and some trap and skeet records. First, a larger selection of loads can be concocted with the 12-gauge case, even to the mini-Magnum. Second, there's the pattern discussion we just went through. And taking a look at trap and skeet records will show the 12-gauge stands in a class by itself. I've watched dove hunters drop high flying birds with a load from a 20-gauge



BROWNING T-BOLT 22 with Redfield 4x scope is one of Helen Lewis's favorite squirrel guns. Light and accurate, it has a fast-working action.

skeet outfit and also from the 410 bore, but in both cases, it was more luck than effective killing power. At those heights with the little gauges and their small shot charges, it was more the case of a single pellet hitting a fatal area than the target being encased in a solid pattern of shot."

"What about the fact that 1½ ounces of shot can be stuffed in a 2¾-inch 20-gauge shell, plus being able to go up to 1¼ ounces in the 3-inch 20-gauge Magnum?"

"You have a good point, but velocity does drop with the larger shot charge in the 2¾-inch case, which might affect the pattern at maximum distance. In respect to the 3-inch shell, I haven't fired enough tests to be conclusive. I do know the longer case can handle velocities on a par with the larger gauges, and that's music to an old 20-gauge fan like myself."

"Before I leave, I'm going against you once more about the 410 bore. I have a brother-in-law who uses nothing but the 410, and he brings home just as much game as any 12-gauge shooter. How do you answer that?"

"I don't have an answer. It may be

your brother-in-law is a whale of a shot and knows the effective range of the little shotshell. You didn't mention how many clean kills were made compared to shots that only crippled. This is a factor every hunter should be vitally aware of. The conscientious hunter will pass up the long shot instead of winging a grouse or knocking fur from a rabbit."

"I don't know how you got on the 20-gauge tangent when I wanted to know about a gun collection, but is the Weatherby better for deer than the 270 Winchester? My brother-in-law . . ."

Right at that moment I was saved by the phone, and the car horn began to honk in the driveway. My visitor left too soon. The caller wanted to know if a Magnum rifle was suitable for woodchuck hunting . . .

20 Versus 12

The long discussion here about the 20 versus the 12 may seem out of place in trying to correlate it with a collection of hunting guns, but I don't think so. The thinking that these two popular gauges—and I'm not insinuating the 16-gauge is dead—are equal because their shot charges travel about the same distance is a misconception a lot of hunters are confused about. Also, the female hunter who fears the recoil of the larger 12 could purchase a 20 not knowing there isn't a great deal of difference. In the majority of cases, the recoil conscious hunter could take advantage of the low recoil 12-gauge semi-automatic. The gas-operated autoloader does not seem to have as much backward push as the pump or break-open type. These are just a few of the things to be considered, and believe me, there are others.

Short barrels with very little choke appeal to me. They are easier to swing, and the larger patterns they offer at short ranges are reflected emphatically in the game bag. I had a battered 32-inch 12-gauge double choked full in both barrels. The first time I used it on a rabbit hunt, I

came home with eight empty cases and the old shotgun. Nothing in the way of game. I didn't have a patterning range then, but a dozen shots at newspaper sheets convinced me I could get thirty times what I paid for the vintage double if I could find a dedicated duck hunter. At 45 yards, nearly 80 percent of the pellets landed in a 30-inch circle. I was torn between trying to sell the gun or attempting to make a brush gun out of it. The latter won.

Without fanfare or measuring, I whacked off 5 inches. This was foolish, but I didn't know that then, and it could prove ignorance can be blissful and sometimes profitable. It could have been sheer luck, the nod of fate or whatever, but at 30 yards, I literally plastered the entire sheet. A few more shots convinced me I had the greatest rabbit gun ever. There was no joke about that. With that old outfit I killed more game per shell fired than with any shotgun before or since. With new outfits to test, I gave the old double to a friend who makes it speak with real authority.

What's all this have to do with gun collecting? Plenty. I'm trying to bring to light the fact every gun should be capable of doing a job instead of just filling space in a gun cabinet. A friend of mine carried the same double barrel for 40 years. In his hands, it was the proper gun. A dozen sleek over-unders, semis or lightweight pumps could have lined his workshop walls, but not one would have done any better job than the 12-gauge double. The moral here is that one reliable gun was all this man needed for the kind of hunting he did.

Stepping into the big game line, we hear the constant cry of super power. Personally, I'm against that philosophy, but it's easy for me to understand the thinking of the modern young hunter. Everything around him is "super." While I'm crawling along in my 4-wheel-drive with regular winter tires, I'm passed by similar outfits boasting tires a foot wide. I don't know if they're necessary, since I get

where I'm going, but the concept does reflect a way of life. Maybe it's required today to go all out, and this can easily carry over to the hunting rifle. The truth is, even the largest 30-caliber Magnums aren't several times more powerful than the old '06, 270 Winchester or 308. Nevertheless, the Magnum symbolizes the thinking of the new hunter.

What represents a genuine hunting gun collection? I couldn't answer that any more than I can predict how many rabbits my beagle will run next fall. All I can offer is some advice and some inside knowledge gained over years of shooting and the range testing of hundreds of shotguns. There is no exact criterion except common sense. Each gun should fill a definite need. Since I hammer away at the psychological side of hunting, I have to stress the new outfit should not only fit the physical requirements of the hunter but also should conform with his psychological needs.

410 No Gun for Novice

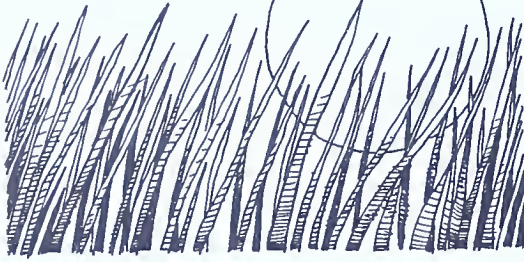
Even though I own several 410 bores, I'm totally against this shot-shell being used by the novice or inexperienced hunter. The ½-ounce pattern is too thin. Using 7½ shot only gives 175 pellets to work with, and the gaps between pellets are numerous and large on the 35-yard patterning board. Stick with the larger gauges and forget the old tales about the 410 bore being capable of outshooting its competitors. It doesn't perform as well in patterning, reaching out or producing effective killing power.

The real enjoyment in hunting stems from owning the proper equipment—which is not necessarily a lot of expensive stuff. Having the right gun for the type of game hunted will bring more satisfaction than having five guns that are never used. I'm all for building a hunting gun collection, but I'm in favor of using discretion. I'll close by saying my 1976 will be a lot more enjoyable if I was instrumental in helping you with your new gun purchase.

In the wind

chuck fergus

information writer



The U.S. Army Chief of Engineers has recommended to Congress that the controversial Tocks Island Lake Project be deauthorized, according to the National Wildlife Federation. The recommendation follows a vote by the four-state Delaware River Basin Commission opposing further federal funding.

Seeds of the desert shrub jojoba contain an oil which duplicates many industrial uses of oil from the sperm whale—a marine species believed endangered. The jojoba shrub grows wild in regions of Arizona, California and Mexico. At present, two experimental jojoba plantations are funded by the Dept. of Health, Education and Welfare.

Water pollution control will cost about \$44 for every American each year for the next 10 years, according to estimates by the National Commission on Water Quality. On an annual basis, this is approximately one-twelfth of what Americans spend on cars and one-sixth of our petroleum expenditure. Total cost estimated for water pollution control is \$97-\$135 billion by 1983.

State, federal and private conservation groups are cooperating to preserve the last remaining habitat for the endangered Mississippi sandhill crane. Only about 40 of these cranes exist today. The Fish & Wildlife Service is proposing that approximately 100,000 acres of habitat (which is on privately-owned land) be designated "critical" under the Endangered Species Act; this means no federal money could be used there in any way that would damage the cranes' habitat. The Nature Conservancy has purchased almost 2000 acres in the area which will be turned into a refuge.

The Kirtland warbler population more than tripled last summer in one of the most successful nesting seasons on record. Officials believe there are at least 1200 warblers now compared to about 360 which began the nesting season last spring. The endangered species' success this year is attributed to a cowbird control program.

Geologists think the U.S. may experience some volcanic eruptions in the future. After a 125-year dormancy, Mount Baker in Washington is becoming active. Scientists say this could signal a possible eruption. The Cascade mountain range running through Washington, Oregon and northern California contains other volcanoes also capable of becoming active. In addition, active volcanoes in both Alaska and Hawaii could erupt this century.

The Environmental Protection Agency has ruled that Philadelphia must phase out ocean dumping of sewage sludge by 1981. This decision followed an appeal by the city on a February, 1975 EPA ruling.

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Jim Roever

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COVER PAINTING BY J. M. ROEVER

February is a month of drifting snow, wind that cuts through wool jackets, icicles on the edge of the porch roof, well-furred foxes, cottontails crouched in brushpiles and wind-buffed chickadees . . . and somewhere, somehow, the faintest awakenings of spring. It's a time for solitude if you can escape the annoying buzz of snow machines. It's a time for cross-country skiing, snowshoeing and plain old hiking. And lucky is the Pennsylvania family who owns a hunting cabin, for February, like all other months, is a tremendous time to retreat and get back in touch with nature.

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What Anti-Gun Sentiment?

A NATIONWIDE GUN CONTROL survey shows that Americans are much more pro-gun in their outlook than many self-appointed TV, newspaper and magazine experts would have us believe. A poll taken recently by Decision Making Information, Inc., of Santa Ana, Calif., contains the results of in-home interviews with 1538 registered voters throughout the U.S. These persons were selected scientifically to conform to population characteristics derived from the U.S. census. The results clearly indicate that such widely circulated comments as "the people want federal control of guns, quickly and decisively" and (the people) "view gun control legislation as necessary" are erroneous.

The DMI survey shows the following:

—82 percent of the American people believe that they, as citizens, have a right to own firearms.

—76 percent decisively reject a ban on private ownership of handguns.

—Fully half of the public thinks a national registration program would eventually lead to confiscation of guns by the government.

—78 percent believe that the U.S. Constitution gives them "the right to bear arms," and 73 percent reject the notion that this right pertains only to the National Guard.

—71 percent reject any law which would give police the authority to decide who may or may not own a gun.

—46 percent of those surveyed had at least one firearm in the home. (The overall percentage of firearms owners in the adult population was about 29 percent.)

—78 percent feel that neither of the two recent attempts to assassinate President Ford could have been prevented by a national handgun registration law, and 71 percent reject the idea that assassination attempts on public officials could be avoided by banning private ownership of handguns.

—73 percent do not believe that a federal law requiring all guns to be turned in would be effective in reducing crime.

Asked to indicate the most important national and community problem, less than one-half percent mentioned gun control. When asked to suggest ways to reduce crime, only 11 percent mentioned gun control as a solution, while 33 percent (by far the most popular suggestion) advocated more severe punishment of criminals. The DMI survey further indicates that 50 percent of firearms-owning households contain at least one handgun, 84 percent of those interviewed believe that gun registration will not prevent criminals from acquiring or using handguns for illegal purposes, 64 percent think crimes will not be solved by registration because criminals would not register their guns, and 70 percent think that potential criminals determined to get guns would get them regardless of laws.

To date, the results of this survey have received little attention from the anti-gun pundits. The reasons are obvious. But we just thought you'd like to know.—*Bob Bell*



The Buck of Elithorpe Run

By Frank Ogrin

WE CAME onto the farm in the early days after World War II. We thought that all too soon the currents of history would again assert themselves: the war prosperity would decline into the post-war prosperity, which would quickly diminish into a recession, with the dreaded depression close on its heels. We had already been through one of those in the city, so the sensible thing now was to go look for a farm. We decided on north-western Pennsylvania, where land was plentiful and cheap because everyone seemed to have left for the city.

Most of the people we knew shook their heads at the thought of such a move but acknowledged that on the farm we would at least always have something to eat. In those days people still thought in those terms, but then what did they know? They were every bit as uncertain of the future as we were. Two wars later, during which an unprecedented wave of prosperity prevailed, we had long since realized the folly of our move—but that is a fact we dwell upon as little as possible.

What is momentous is that the farm was in the Allegheny National Forest and in the year 1947 it literally swarmed with deer. I had seen my first deer in the wild just a couple of years before, when three of us from the Cleveland machine shop went on a vacation tour of the northeast. We drove through the Adirondacks and across Quebec before we spotted our first deer in a Maine cow pasture. I almost ran into a ditch getting the old Plymouth stopped. Somewhere I have a snapshot of a rocky hillside in Maine; in the center of the photo is a minuscule speck which only I know is a skinny little doe staring at me in utter amazement.

The transition from a life of no deer

to one of many deer is not a difficult one; in fact you get used to it right away, especially when you get to see deer more often than people. After a few months of it we reached the point where we looked at the deer not just to see them, but to see how many. For a while we thought we had a record count when we spotted 34 in one herd below the farmhouse. But a couple of weeks later we tallied over 40 in the same area. After that we didn't bother to count but let the visitors do it, since they got such a big kick out of it. There sure were a whole lot of deer on that old farm.

The war must doubtless have accounted for their great numbers throughout the region. For the preceding several years, most of the young men who would have hunted them were away in the service and those who remained had their hunting activities curtailed quite a bit by the gas rationing. I'd heard that before the war deer were few and far between; but now they were all over the place.

The Hunters Came

We had moved onto the farm in fall and now all too soon winter descended and deer season came around. We had of course known that not only had we inherited a multitude of deer but also a small army of hunters to hunt them. They came now on the weekend, carloads of them, coming from the very city we had vacated. They were older men for the most part, heavily garbed in winter woolens and great boots that would have contested the latitudes of Siberia.

Fifteen of them came that first year to stay and our old farmhouse bulged with them. Most were businessmen of one sort or another—tavern-keepers mostly—and almost all were in their



THE MOVEMENT and the slight click as I flipped over the safety brought up the buck's head. I knew I had only an instant, and I fired in the middle of it. . . .

60s. They had managed to come even during the war years, for as businessmen they could more readily get around the problem of gas rationing. But it was soon apparent from the way they hunted that they could never have posed much of a threat to the deer population.

They would trudge off into the woods on the first morning—but not too far—ensconce themselves under a favored tree and wait for a buck. They had stuffed their pockets with great sausage and salami sandwiches, which they started to work on as soon as the waiting took on the tinge of monotony. In the meantime they conversed with each other across the intervening spaces, a habit which quickly vacated the area of other hunters. They saw deer, of course, but nothing that was legal.

Eventually, and usually within a

couple hours, the long wait paled on them and they trudged back to the warmth of the farm kitchen, hot coffee, and a lengthy exchange on the fickleness of the quarry. After that, their spirits revived anew, they went forth again to another favored spot, but already the venture was only token. They were there really to escape the city for awhile and to participate in the comradeship; bagging a deer was of secondary importance.

There were, of course, the younger among them who really did hunt, and by the second day a gratifying number of bucks hung stiff and frozen from beams in the barn and shed, four of them that first year, which proved to be about par for the course. By Wednesday of the first week most of the hunters began to leave, especially those who had gotten deer, and by Thursday all were gone. A sense of loneliness descended on the old place.

That was when I finally took the Mauser off the wall and went hunting myself. The month before I had taken a trip back to Cleveland to trade off a 22-caliber target pistol for something more suitable to big game hunting. During the war, a friend had sent home a couple of sporting rifles he had picked up from the shell-wracked ruins of a burgermeister's home in Bavaria. He must have thought the pistol a good trade, because he gave me the choice of either of two guns, plus a scope to go with it. The guns were an 8x57 Mauser and an 8x56 Mannlicher. I was enough of a gun nut to know that the Mannlicher-Schoenauer was a much better bargain, but I wasn't sure I could get shells for it. So I took the Mauser, which was a fine-looking gun in its own right, with a spoon-shaped bolt and double-set triggers.

There was a new fall of snow atop the old, with a thin veil coming down as I walked around the lower barn and headed down the steep slope toward the woods of the Allegheny Forest. The air was calm and it seemed an abnormally quiet day, the falling snow doubtless deafening all

sound. I was halfway down the hill when I saw the buck. Until that moment, even with all the deer on the farm, I had not seen a really good buck. I had seen all kinds of does and fawns and yearlings and bucks with tight, little racks, but it always seemed that the mature ones were too elusive to be seen unless you blundered upon them with a spotlight in the dead of night.

But there he was suddenly in the fine gray light of day, in the silently falling snow, walking slowly, head down, the rack tossing as he snuffled at the snow. And he was totally unaware of me as I brought up the Mauser, feeling something of an assassin.

Safety Click

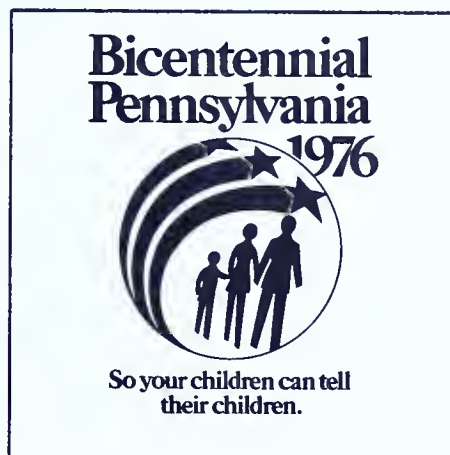
The mounts of the scope I had been given had not fit the rifle, so I had not bothered with it. Instead I was relying on the open sights of the rifle as I brought them to bear. I had made certain only that the high leaf sight was down, as I did not think I would do any shooting over a hundred yards. The movement and the slight click as I flipped over the safety brought up the buck's head. I knew I had only that instant, and I fired in the middle of it. Somehow in the midst of the sudden and unexpected excitement I managed to settle that silver front sight onto the area back of the buck's shoulder, just as the Mauser went off with a jolting bellow and the buck dropped on his chin in the snow.

It was my first deer and the sight of that fine looking creature down like that was a bit heady, but even so I had enough presence of mind to realize that it might not yet be the end of it. I worked the bolt and ran another cartridge into the chamber. I was using some long 220-grain Czech slugs that one of the hunters had given me. Big enough for moose, he had said.

In the few seconds that this was going on, the buck's head came up. I should have realized that he wasn't down for good by the simple fact that

he hadn't rolled over on his side but lay there with his feet tucked under him. Now his head was up and he was alert and thinking, and I knew that I should have shot him then, again. But I was steeped suddenly in a moment of idiocy, thinking of that downed buck in terms of sitting ducks, or rabbits, or pheasant, all of which are to be shot at only when on the wing or run. While my mind clanked away at these thoughts, the buck got up. He did not heave to his feet and then start to run but literally rocketed out of the snow in a dead run and was off and away as I belatedly threw that 220-grain at him. The way he kept going at the shot told me I had made only a minor perforation in the snowscape before me—a clean miss.

I knew now that I had set myself up for a series of unknown complications, all of which could have been alleviated by that second quick shot. I went down to look where the buck had lain in the snow. There was some blood there but not very much. I thought then that I might only have grazed him, but by the way he had gone down I knew I had hit him solidly and that in time he would go down for good. I trailed him into the woods a ways, seeing the tracks going off in good, strong jumps, with only a drop of blood here and there. It had, even to my inexperienced eye, all the looks of a long chase. I left off then and went back to the house to get my brother.



A few minutes later the two of us took up the trail, my brother carrying an old 30-40 Krag that a neighbor had loaned him. It was easy to follow the buck's trail in the new snow; the fresh four inches had obliterated all old tracks of deer and hunters alike, as if to wipe the slate clean and start anew. The tracks went in a straight line through our woods, then crossed over the one strand of barbed wire that remained of the fence that separated the farm from the national forest. They veered a bit to the left and went through a stand of towering hemlocks that we had figured were there from the time of Columbus. They had cut all the other trees around the hemlocks a long time ago, the maple, the ash and the black cherry, and now these were all grown up and log-size again, while the original hemlocks were still there. We went through them, past their great bulks, following the tracks of the buck.

Up the Long Slope

We went through the second-growth timber and up the long slope of the first ridge, not hurrying but not tarrying either. At the top the buck had followed the ridge for a while before he had gone down the other side into the valley. A small stream meandered down the middle and we saw where the buck had gone to drink and then further on where he had lain down for a bit.

The stream was called Elithorpe Run and it had its source in the valley below the farm where it crossed the road under a tiny bridge. It was named after the settler who had cleared the land for our farm and who had cut timber for the settlements springing up in the area. It had been a wild country then, with elk and wolf and panther. But what was more interesting was that old man Elithorpe had supposedly taken to carrying his gun into the woods with him during one period of his logging work because of a truculent old buffalo bull in the area. At one time there were

many buffalo in the East, but they were more quickly exterminated than their cousins on the Western prairies. No one could say what that old bull was doing in the woods 30 or 40 years after the rest of his kind had vanished.

We went to look closely at the place where the buck had rested. There was a red spot there about the size of a half-dollar.

"Heck," my brother said, "he sure hasn't bled much."

"Well, maybe it's mostly internal," I said.

We did a long-step across Elithorpe Run and trailed along on the flats for some distance and then, sure enough, there were the tracks going up the second ridge. The second ridge was steeper than the first and we were breathing heavily by the time we got to the top. Here the buck's tracks had mingled with a lot of other deer tracks, and for a while the two of us cast about like a pair of hounds picking his out of the rest. It really wasn't that difficult, as his hoof prints were more widely splayed and the dew claws more clearly defined than the others. We sorted his out finally where they broke clear and went down the hill into the next valley.

The buck now decided to follow the valley for a bit instead of going up the next ridge, and that was all right with us. But now he took us through a logged-over area where the ground was littered with tree tops and limbs scattered every which way, which made the going no less difficult. After that we found ourselves negotiating an even more hazardous terrain, going over rocks hidden under the snow that made the footing treacherous. Our legs were constantly dropping down between the rocks, and one time I actually felt my leg bone bend. I realized how easily it could have snapped. I broke out into a cold sweat thinking about it. But eventually we were clear of all this and the tracks veered off to the right. Then we were going up the hill again, up the next ridge.

All this time, which was a couple of hours by now, we had seen nothing of the deer—just his tracks there in the snow. But now, all of a sudden through the trees a long way off, we saw him going up that ridge, his haunches working powerfully as he went up the steep grade. Even from that distance you could see his rack easily. My brother was visibly impressed; until that moment he had been trailing a phantom. He was too far off for us to even think of taking a crack at him, but the sight was great for our morale.

We followed the buck a long way along that winding ridge as he took us under another old stand of hemlock, over windfalls, and through dense thickets that always contained other deer. That was when we finally saw another hunter in his red jacket leaning against a tree. I wondered if he had seen the buck go by, as he feigned not to see us. What could he be doing so far back in the woods where he would have such a tough time dragging out a deer? By now I was wondering about the logic of our own pursuit and whether there was enough time left in the day to keep going at it.

The afternoon wore on while we kept trudging through the snow. It had stopped snowing earlier, but now it started coming down again and it seemed to have gotten colder. I thought I still had a pretty good idea where we were in relation to the farm. I had always thought I had a pretty good sense of direction, and every time that buck took us on another heading that inner compass within me automatically compensated for it. In fact I was quite confident that at any given moment in the chase I could correctly point out in which direction the farm lay.

"Well, I don't know," said my brother, "it looks like that deer wasn't so hard hit after all." We had made another stop to rest and were looking at those tracks going off in the snow. By now they seemed to go on forever.

"Sure he was," I said.



WE SKIRTED a hemlock and stopped dead. There was the buck, standing in the clearing with his head turned back, looking at us. We stared at him, entranced.

"Well, whatever it was that made him go down like you said, he seems to have completely recovered from it."

"No, not quite," I said, looking at the tracks. "He's dragging his feet now. He's getting tired and he's slowing down."

"He's tired, eh?" he said. "Look at our own tracks back there."

We went on for another quarter-mile and then stopped. It was after four o'clock and it would be dark in less than an hour. Even if our luck changed and we came upon the deer, neither of us had any desire to drag him five or six miles back to the farm over some pretty mean terrain, tired as we were and in the dark to boot. It was obvious that I had inflicted no lasting damage to him and so there was no longer the obligation of humaneness to spur us on.

But we still followed along after

him instead of turning back and heading toward our rear and to the right, in which direction I was certain the farm lay. There appeared to be an open area in the woods ahead of us and we were curious to see what it was. We went along forward, skirted around the low-lying limbs of a hemlock, and then stopped dead. There was the buck standing in the clearing with his head turned back, looking at us.

We stared at him entranced, without making a move. He was only a short distance away and either of us could have dropped him in his tracks, but for some odd reason not even a vestige of such a thought occurred to us. The buck turned his graceful head, angled away a few steps and casually leaped across what appeared to be a small ditch. A red line along the front of his body just beneath his neck showed where my bullet had touched him. The wound obviously was superficial and would soon heal. We watched him disappear into the woods on the other side. Then we went to look at the clearing and saw that it was a road, a road way back in the woods, in the middle of nowhere.

To our right the road dropped down a long hill, bordered closely on each side by the woods; to our left it went up the hill, but it was bordered only partway by the woods. It looked like there might be something there, per-

haps a camp or even a home where we could get someone to drive us back to the farm, for we were certainly too tired to walk all that distance. As we neared the crest of the hill the woods fell away to farmland that spread and stretched away before us until we reached the top. Farm land lay on the other side, with the forested ridges beyond it undulating toward the rapidly darkening horizon.

There was a farmhouse there to the left, not yet familiar as we first looked at it, an old farmhouse with old wood siding through which the wind whistled. But there was a spiral of smoke coming from the chimney, smoke that we knew was from the maple and black cherry being burned in a Warm Morning stove. And we knew now that in that old house there was hot coffee and something good to eat awaiting us because it was, after all, home. It was at that moment a sight welcome beyond compare for two tired hunters.

We went down the road, walking easily on the smooth-plowed surface, and I may have thought only vaguely of intuitive directional instincts and bucks that fled in circles. It seemed more gratifying to think that somewhere back in the forest the buck had found his bed for the night, assured possibly of another year of life which is, after all, a long time for a deer. And I found that I regretted it not at all.

Zygo — Who?

Owls have zygodactyl feet (two toes forward, two back) with one rear toe reversible.

Game Commission Thanks Contributors

The Game Commission wishes to thank those individuals and organizations who have generously donated money to the Game Fund. These concerned citizens have certainly done their part for conservation in Pennsylvania. The Commission is permitted to accept donations from any person, association, corporation or firm. Contributions go toward purchasing public hunting lands, which can be used by hunter and non-hunter alike, and for other wildlife management uses.

25 OCTOBER 75

By Chuck Fergus
GAME NEWS Staff Writer

Throughout Pennsylvania, the opening day of regular small game season is a busy one for the Commission's game protectors. And in good small game territory near cities, where hunting pressure is especially heavy, things can get downright hectic. In such an area, a game protector—and a GAME NEWS staff writer, if he rides in the same car—is exposed only to the violators on the first day as he moves from spot to spot settling violations picked up by the deputy force.

Many of the violators are people just like you and me. Maybe they've erred in judgment: shot a flushing pheasant without double-checking its sex, broken a game law without even knowing it or, in typical human fashion, succumbed momentarily to greed. Basically, they've committed accidental violations.

Then there are the people who intentionally break game laws. Strict law enforcement by our game protectors is the only thing that keeps these individuals in check.

But both these types—the accidental and the habitual violator—form a distinct minority among Pennsylvania hunters. They're far and away outnumbered by average, law-abiding men and women who enjoy and respect the hunt. Please keep this in mind when reading the following article.—CF



JUST BEFORE 7 a.m. on October 25, 1975, the first day of small game season, I looked out the window at the night slowly graying into dawn. I rubbed my eyes and yawned. On opening Saturdays past, I'd stayed in the sack until 8 o'clock, rolled out and headed for some brushy hollows with my beagles. With a 9 a.m. opening hour, I never felt guilty about sleeping late.

But I wasn't in the sack, and I wasn't home in Centre County. I was sitting in the living room of Ted Fox,

DGP Ted Fox records details supplied by one of his deputies. Opening day of small game season in this heavily hunted county is a hectic one for deputies, game protector.

game protector in northeastern Lancaster County.

"Let's get some breakfast," Ted said. "The first shift's finished eating."

We took chairs just vacated by a couple of Ted's deputies. Student officer Bob Fala, assigned to DGP Fox as part of his training, took a seat to my right. Ted's wife Nancy and



GAME PROTECTOR copies down information from hunter's license. Violator can settle on field acknowledgement of guilt, or request a hearing.

Sandy Treisch, wife of Deputy Bob Treisch, served a big breakfast of ham, eggs, toast and nut rolls. We ate amid good-natured banter between the men and cooks. At the meal's end, pipes and cigarettes appeared as the deputies relaxed for a moment and contemplated the day.

"I'll have sixteen men in the field today." Ted tamped some tobacco into his pipe, lit it and puffed a cloud of smoke. "They work in eight two-man teams spread out over the district, each team in a vehicle with a radio unit. We operate a base station here at the house."

Base Station

Bob Treisch would work the base station. A back sprain kept him from patrolling in the field, so he planned to take telephone messages—complaints, accidents, requests for aid—and relay them to the deputies, at the same time keeping the game protector informed on what was happening throughout the district.

Finally, the talk died down; the deputies zipped up their jackets, tugged on caps and picked up their investigation report books. In twos,

they filed out of the house. Doors slammed, cars started and then crept off through the patchy ground fog. Just after 7:30, Fox, Fala and I stepped into the damp air and walked to the game protector's car, a new green Matador with Game Commission markings on the front doors.

"You drive, Bob," Ted said. "It's gonna be a long day, and I might as well take it easy at first."

Bob eased the car down the gravel drive and pulled onto a blacktop road. He turned on the windshield wipers. It would be a cloudy day, with intermittent rain that sifted down rather than fell.

Ted, sitting next to Fala up front, looked out the window. "There's still lots of standing corn. We had rain last week that kept the farmers from getting out and harvesting."

"What'll that do to the hunting?" Bob asked.

"For one thing, it'll give the birds a place to hide. For another, it can be dangerous. Someone shooting in standing corn may not be aware of other hunters nearby. We might have to visit the hospital before the day's over."

Lancaster County is prime small game country, nationally known for its pheasant hunting. Fertile farms edged by swampy bottoms, hedgerows and woodlots draw hunters like a magnet attracts filings. Lancaster, Harrisburg, Reading and Philadelphia ring the area, so there's no shortage of gunners. Fox is used to seeing crowded hunting, as he's been in the district since March of 1971, when he graduated from the Game Commission's training school. Before working for the Commission, he taught social studies at Franklin, Pa. At age 30, he is trim and in good shape.

"Are we just gonna cruise around until we get some calls?" Bob asked.

"Yeah. When that radio starts up you won't hear anything else for the rest of the day."

Ted planned to cruise his district, driving from place to place to settle violations picked up by his deputies. Only a game protector is empowered to settle on field receipts and collect fines—an option a violator may choose instead of a hearing. We figured to have a busy day.

It wasn't quite 8 o'clock, so we still had an hour before the season started. Fala eased the car around tight curves on the horse-and-buggy township roads. Shocked corn dotted the flat, rich land and hogs, cattle and geese fed in fields and pastures near farm buildings. We passed an old stone farmhouse; a blonde girl, barefoot and wearing a light-green dress, swept water off the porch with a broom. She straightened and watched the car go by.

"I didn't sleep too well last night," Bob said. "Tossed and turned just like the night before buck season."

Ted smiled. "It gets in your blood."

We saw groups of three and four cockbirds feeding in open fields. "They'll scatter before long," Ted said.

At 8:30 we heard shots, a lot of them, coming from over a small hill.

"Let's go," Ted said, rolling down the window. Bob punched the car up the grade. We were all set for an army of hunters jumping the gun, and

Bob slowed as he crested the hill.

"There they are."

Five men stood by a house, one throwing claybirds with a hand trap, the others shooting. Ted raised one eyebrow quizzically and fired his pipe, two things he would do time and again all day as he pondered a question or surveyed a situation. He waved the match out, turned toward me and grinned. "I guess they're just practicing."

We drove on, past parked cars and groups of hunters uncasing their guns and wiping down the barrels with handkerchiefs as they waited out the last few minutes. At 8:50 we parked where we could watch several groups of hunters.

The Season Opens

A radio time check from the Southeast Division Office finally told us it was 9:00. The season was on. As if on cue, orange-garbed figures fanned out and started across fields. A cockbird ran ahead of a group working some corn stubble. When he reached the end of the field, he dived into a patch of weeds and held as the hunters went by. Off to our right, a young hunter downed a bird and retrieved his prize. Shots sounded all around us. Close reports were crisp and loud, like firecrackers; far away, the shots were muted, like doors slamming.

"There's a couple hunters with a dog up on that hill," Bob noted.

Ted trained his binoculars on them. "Irish setter. Those boys might as well go home," he said, grinning with the smug confidence of a Lab man.

At 9:20, the radio crackled for the first time: "Six-two-five-X to six-two-five." It was Treisch, calling from the base station at Fox's headquarters.

Ted picked up the mike. "Six-two-five 'by."

"We've got a complaint—hunters in a safety zone near Spring Garden."

"Right, Bobby. We'll take care of it."

It took us only a few minutes to reach Spring Garden. There, an irate landowner explained how some hunters had worked through a safety zone



FOX AND Deputy Earl Bowman check a couple of pheasant hunters. The vast majority of hunters afield on opening day are law-abiding sportsmen.

near his dog's pen. While we talked with him, a shot rang out from the crest of a small rise above the landowner's house. Two deputies had just arrived, so Ted sent one up the hill. "Bring 'em down," he said.

The deputy returned with two hunters. Ted asked them to unload their shotguns. One man admitted shooting at a ringneck on the hill but claimed he wasn't in a safety zone, as it wasn't posted. Ted told them the area was still considered a safety zone, because it was well within 150 yards of occupied buildings. Had the hunter shot toward the house, he easily could have wounded a person or damaged the building.

"I've been hunting here since before you were born," the man said, jabbing a finger in Ted's direction.

A few puffs on the pipe, the raised eyebrow. "Then you really should know the game laws by now," Ted said with a smile.

"I'm gonna write a letter to Harrisburg!"

"Go ahead, if you'd like to. You won't be the first or the last."

Ted explained that they could have a hearing if they wished, or they could settle on field acknowledgements by admitting their guilt and paying \$25 fines—one man was charged with shooting and the other with hunting in a safety zone. The game protector took information from the hunters' licenses: names, addresses, license

numbers, ages. When he asked one hunter for 'color of hair,' the man replied, "Gray, and it's gonna be white after this.

"Well," he went on, "I'm sellin' my guns, I'm gonna become an anti-hunter. I've fought for hunting all over this state, and now this!" He saw two hunters walking down the road. "Might as well throw your guns away, boys," he shouted at them.

When he began to curse the landowner, Ted stepped in. "You're already in trouble," he said, "and you're only getting yourself in deeper."

Finally, using a tape measure, Ted apparently convinced the men that they'd been in violation of the safety zone law. They grumbled but settled on field receipts. When they departed, Ted gave each man a long look. "See ya later," he said. I remember thinking how this is truly a pregnant phrase when used by a game protector.

"I wish guys like that would go ahead and sell their guns," he said as we walked away. "Their type gives hunters a bad name."

It had taken close to an hour to settle the pair of violations; during this time, student officer Fala had monitored the radio and already cases had piled up.

Hen Pheasant Shot

South of New Holland, Fala got some practice writing up a hunter who had killed a hen pheasant in mistake for a cockbird. Woody Woodring, retired game protector who still works as a deputy in his old district, witnessed the violation, stopped the hunter and radioed Fox to come settle on the field acknowledgement. The pheasant was missing both feet, apparently cut off long ago by a mowing machine. Stiff patches of callus covered the ends of the stubs. The bird had survived the accident only to fall prey to an overanxious hunter.

The misting rain started to come down heavier about noon, and Ted remarked that his deputies would probably pick up a few violations of hunters taking shelter in their ears

and carelessly leaving their guns loaded. Within the hour we settled two such violations.

When a call came over the radio that two men were in Ephrata after a hunting accident, Ted took the wheel and drove to the hospital. The pair had been hit in the back of the legs by a man shooting at a rabbit. Fortunately, the wounds were not serious. After he had talked with the injured men for a minute, the hunter—listed as the “offender” in the accident report form—left the scene without offering assistance or even giving them his name. The two injured men had gotten his license number, however. Ted told them they would be asked to testify at a hearing when the offender was found. They said they’d be willing, and after shaking hands with Ted they left.

We stopped by Ted’s house for a quick lunch and then had to turn around and go back to Ephrata Hospital, as two more hunters had been injured. One had a slight wound in his neck from a shotgun pellet, and in an unrelated accident, a 22-year-old man had caught eight pellets—two in each leg, three in his arms and one in the temple. Another pellet had glanced off the lens of his eyeglasses. After filling out the paperwork, we got back on the road.

Next, we met deputies Donny Grimes and Chuck Elmer. They’d arrested two men in the same hunting party, one for shooting a hen pheasant and the other for possessing a “small blue heron,” according to the information collected by Deputy Elmer. Ted smiled as he lifted the protected bird. “Make that ‘little green’ instead of ‘small blue,’ Chuck.”

The man who’d shot the heron paid a \$10 fine for shooting a protected bird. He was wearing a purple suit, hunting license pinned to the back, over a polka-dot shirt. I got the distinct impression that he wouldn’t have known an owl from a chickadee, let alone a heron from a ringneck. His partner, who paid \$25 for shooting the hen, was dismayed when told he

couldn’t keep the bird he had taken.

Our next stop was the office of Caernarvon Township Chief of Police H. B. Gehman. The chief had earlier chased six hunters out of a safety zone, then arrested them when they’d gone right back in. They admitted their guilt in hunting in the safety zone and were not prosecuted for hunting in a group larger than five. When Ted started explaining why hunting isn’t permitted within 150 yards of occupied dwellings, one of the violators piped up, “We know all that. We’re members of the Fish and Game club back home.”

I could see Ted doing a slow burn, as he looked around the room at the six violators. “If you’re members of a sportsmen’s club, you ought to know enough not to hunt a safety zone.”

After writing up each of the six men for a safety zone violation—which carries a \$25 fine—we got back in the car. No sooner had we turned onto the highway than we got a call to go back to Spring Garden. The two hunters Ted had arrested first thing that morning had returned to the landowner’s trailer to harass him. We headed in that direction, but four of Ted’s deputies reached the scene first and quieted things down.

Next, Ted settled a safety zone violation which the State Police had corraled. A hunter had shot about 100 yards from a heavily-traveled highway

“SIX-TWO-FIVE ‘by.’” Use of radio unit, base station and units in deputies’ vehicles helps improve efficiency of Fox’s law enforcement work.



and rained pellets on a restaurant parking lot. An out-of-state man traveling through the area had telephoned the police, who found the hunter and held him for questioning by the game protector. Another safety zone violation, a \$25 fine and more bad publicity for hunting—all for one shot at a pheasant.

Back at Ephrata hospital we interviewed two hunters who'd been working some standing corn. The landowner, who hadn't seen them, fired at a pheasant and hit the two men in the face. Again, luck had prevailed and neither had been struck in the eyes.

On the road again, heading for a farm to settle another violation, I realized I'd seen the same houses, turns in the road, bridges, restaurants, and crossroads three or four times as we'd crisscrossed the district. I leaned back in the seat, closed my eyes and reviewed some of the day's impressions: Amish buggies, Mennonites riding bicycles or driving somber-looking cars with the chrome blacked out, Pennsylvania Dutch accents over the radio. Fala and Fox writing citations on trunks and hoods of cars, radio chatter from Chester, York, Berks and Dauphin counties, the Game Commission's Northeast, Southcentral, Northcentral and the local Southeast Division Offices, one radio call after another all day.

Finally it was all over. Ted's deputies picked up two men for hunting after hours, but they would come to Fox's headquarters to settle later in the evening. We returned to Ted's house to unwind over a hefty dinner of meatloaf, baked potatoes, chowchow, corn and homemade pie.

Talk around the table: "We picked up two violations. Things were pretty slow, not as many hunters as last year, and the ones that were out seemed to be behaving pretty well." "I checked a couple hunters and asked if they'd seen any turkeys. They said, 'Yeah, man, but we didn't have permits to shoot them.' You should have seen their faces when I told 'em they

were wearin' their permits on their backs!" "Didja hear about the guy flashing a gun and a badge around up in the north? Impersonating a game protector."

Finally, Ted, Bob and I sat down in the office and totaled things up. We'd driven 198 miles, settled 14 cases and had 27 left unsettled—the accused either wanting hearings or wishing to pay their fines later—and interviewed seven hunters who'd been involved in accidents. Ted estimated that hunter pressure in his district was down 15 to 20 percent from last year.

Deputies walked through the office, the radio buzzed, and conversation and laughter filled the house. Ted filled his pipe and lit it. Smoke billowed around the lamp. His chair squeaked as he slumped into it, hands locked behind his head.

I took a swig on a cold drink one of the deputies had handed me. "You know, this morning seems like yesterday," I said.

Ted cocked his head in my direction and raised that one eyebrow. "Yeah, it sure does," he said with a grin.

The Deputies:

Albert Biddinger, Bird-in-Hand; Marlin Bilger, Ephrata; Earl Bowman, Intercourse; Chuck Elmer, Reinholds; Norm Fralick, Lititz; Donny Grimes, Denver; Larry Keith, Akron; Gordon Liezert, New Holland; Jim Linder, Ronks; Frank Martin, Ephrata; Bart Sharp, Lititz; Bob Treisch, Denver; and Woody Woodring, retired DGP, Ephrata. Nevin Smith, Ray Rudy and Gary Caldwell, Pennsylvania Fish Commission, also helped patrol the district.

The Violations:

Shooting after hours, 2; removing trees from state game lands, 1; hunting or shooting in a safety zone, 15; killing hen pheasant, 2; unplugged shotgun, 13; loaded gun in standing vehicle, 3; killing protected bird, 1; hunting in a propagation area, 1; and hunting without a license, 3. Total: 41.

Huntress of Many Talents

By Ted Fenstermacher

A PRETTY Berwick RD 2 teenager plays many roles—expert huntress, church pianist, beauty queen and recording artist. That's quite a bill to fill, but Miss Becky Yost, who lives in the village of Fowlersville, is all those things.

The last big game season saw the third large deer in as many consecutive years fall before the 308 Remington in the hands of Miss Yost. Two of those deer were 8-pointers.

Sometimes friends kid Becky about how much she likes to hunt and call her "Diana," after the mythical goddess of the hunt. But Becky doesn't mind the ribbing; neither does she mind bad weather or rough going in the woods and fields. Becky turns out before daylight for her hunting forays and is ready for action when the legal hour arrives.

She was hunting alone when she killed her second deer in 1973. Unaided, she dragged it a good quarter-mile to a point where it could be reached by car. Her 1974 kill, typical for her, was a neat shoulder shot at about 100 yards.

Becky likes to hunt in her native Columbia County where she's familiar with the mountains. She's also hunted elsewhere; one of her deer kills was made in Wyoming where relatives live.

Becky was the 1974 Homecoming Queen of Central Columbia High School. That school makes a real affair of their annual beauty and popularity event. As she presided over the royal court at the elaborate ceremonies, few would have realized that she would be equally at home tramping over snowy mountains in quest of the elusive whitetails.

The young huntress, along with her three sisters and mother, Mrs. Jack Yost, comprise the Yost Family



Becky Yost

Singers. That talented group enjoys a busy schedule and has had marked success with two long-playing records they produced in the past two years.

Becky accompanies the singing at the Berwick Bible Church. She is extremely able both as vocalist and pianist and records in both roles.

The beauty queen-huntress comes by her liking for hunting honestly. Her mother, the former Dorothy Lee, a native of Wyoming, has shot four deer to date. Her father, Evangelist Jack Yost, who is known in many states for the service series he conducts, has hunted every year since he was 12 and has shot dozens of deer. He has also taken bear, elk, moose, caribou, big-horn—"Just about everything except a grizzly," he says.

Becky's father feels his liking for hunting is "in no way against Christian principles." He points out the Yosts "always eat what we kill."

He also states that his family has long been interested in conservation and improving the environment. He also says that, "Hunters, guides and all other real outdoorsmen hold a deep respect for both God and Nature."

Amen!



N. ROSATO

“That Log’s Got Hair!”

By Chuck Maxwell

IT ALL STARTED the day before the opening of the 1973 bear season. My father, younger brother and I had just finished packing the car and were getting ready to leave on the two-and-a-half hour drive to the Little Beaver Camp in Tioga County. This was my second year of bear hunting and I was looking forward to the one day a year that, if I saw a bear in the wild, I could bag it.

My father was going to see what ten years of bear hunting would produce this year, and my younger brother Tony had come along to find out for himself what made his dad and brother want to go back so bad, even though we hadn’t gotten a bear in the past.

We arrived at camp about 4:00 p.m. and were greeted like old friends, even though this was only Dad’s third year at camp and my second. Most of the men were already there and were getting ready for supper prepared by Jiggs Sanguarity, the best cook who ever set foot out of Lebanon County.

After we were done eating, some of the men went to bed so they could get up bright and early the next morning, while others sat and played cards and told hunting stories of the past. I watched some deer feeding on the corn behind the cabin.

The next morning we rolled out of bed to the smell and sound of ham and eggs frying beside another gigantic pan of homefries. After wiping out every trace of breakfast, we got into our hunting gear and walking out the door into the cold, crisp, early morning darkness. To my dismay, I found I had left my boots at home and had to wear my sneakers, which I had worn for the drive up the day before. This was something I would hear a lot of joking about later on.

We had decided the night before

where everyone would be going, so we all set out for our favorite stands. The place we had picked was an area which both my brother and I knew pretty well, since we had hunted turkey with dad there before. Tony was the first to drop off. I headed for the same spot I’d posted on the year before. It was along the side of a hill at the edge of a large clearing down through the woods and off to the right. The year before, I had been sitting in the same place and heard the brush crashing behind me. A few moments later, Dad came up the hollow to pick me up at my stand. I never knew what it was that had made the noise but I figured it could have been a bear. Anyway, I decided to take my chances there this year.

My father was going over the ridge, so after saying goodbye to him I went down the hill a little way and sat down at a tree where I had a view of the opposite side of the hollow and of the field. I could see about 250 yards in every direction, except behind me.

Couldn’t See

After about three hours, it began to bother me that I couldn’t see behind me to the top of the hill—especially after hearing a flock of turkeys come in and go in that direction. And inside my sneakers, my feet were getting cold. I decided to move up over the hill. I wasn’t paying too much attention to what was going on around me. Maybe that’s why, when I saw a bear walking toward me about 75 yards off, it didn’t fully register. The first thought that went through my mind was “That log’s got hair!” And that’s when everything started going wrong.

I was standing out in the open with the nearest tree about 20 feet away. I didn’t want to climb it, but I wanted

to rest my gun on it for a shot. And as I didn't want to scare the bear by walking to the tree, I tried to sit down and shoot. Unfortunately, I couldn't see it from a sitting position.

The bear hadn't seen me; its head was down and it appeared to be foraging for something to eat, so I decided to try to sneak over to the tree. By now the bear had closed the range to about 50 yards.

Mittens and Safety

I made it to the tree unnoticed but was so excited that when I tried to shoot, I forgot to take off my mittens and to slip the safety off on the gun. The mitten didn't create too much of a problem, but the safety was another story. I actually forgot where the safety was, and as I was turning the gun around looking for it I pushed the first button I saw. As soon as I did this I knew it was a mistake—especially when the clip fell out on the ground! Now I had to bend over to pick up the clip, put it back in the gun and still find the safety.

I finally did all that and squeezed off a shot. According to my rules, the bear should have dropped in its tracks—but it didn't want to play by the same rules and started to run. Getting off another shot was next to impossible. It was like trying to shoot at a merry-go-round critter doing double-time.

All I could do was stand there with my mouth open. I was still like that a minute later when Dad came over the ridge after another shot was fired. Dad hadn't shot and I figured someone else got the bear I shot at; but I wanted to see the one I had missed, so we went over to look for tracks and blood.

It hadn't snowed that year, so all we could follow were the leaves that the bear had kicked up. Dad found two different trails in the leaves, and we followed the trail of the one I had shot at. Either there were two bears and I'd only seen one, or my bear had come back a second time. I'll never know for sure.

We followed the kicked-up leaves as far as we could, but after a while we lost it. There wasn't any blood on the ground, so Dad said he doubted that I'd hit it. If I had missed, I figured that the sights had to be off on my gun, because I had taken my time and had squeezed the shot off when I was holding right on the bear. So we kept on going for a while, even though we'd lost the trail.

When we reached the top of a large hill, Dad had given up hope of seeing that bear. He sent me over along the ridge to go back down to where we had started from about a quarter-mile back the other way.

My father is not one to argue with when he has his mind set, so I figured if I was going to find that bear I had to do it by myself. Dad started down over the hill and I kept him in sight for a while, but then I dropped back to comb the area myself.

There were charred logs and trees all over the place from a fire a long time ago, and to me every one of them looked like a bear. Then off to the left there was a movement that almost scared the daylights out of me. But it was only a squirrel, and I laughed at myself for being so jumpy. Then I noticed something peculiar about one log lying at the bottom of the tree. It looked like it had hair on it. When I approached, I knew it was a bear and the leaves under it were red.

It didn't move, so I threw some rocks at it while I had the gun ready, and when it still didn't move I touched its eyelids with the barrel of my gun. Nothing.

Now I had to find out if it was the one I had shot at. It was lying on the other side than that which I had shot, so I had to roll it over. I was still shaking and holding the gun, even though I knew it was dead. I didn't want to take a chance of being chewed and clawed. After rolling the bear over and finding a single hole where I had aimed, I yelled for Dad to come back. He was down where we had started from, but he came back

in a hurry when he heard me yelling.

Fathers talk and write about the expressions on their sons' and daughters' faces after they get their first squirrel or deer, but none of them could match my father's face as he came up through the woods and saw me standing beside a dead bear. His smile made the Grand Canyon look like a crack in an eggshell.

After field-dressing the bear and filling out my tag, we dragged the carcass down to a clearing and looked it over. I was all calmed down, but by now Dad was the excited one. He told me to wait there while he went and got the rest of the men.

When he left I unloaded my gun and sat down to wait. After a few minutes, Tony came up over the hill. He kidded a little about me ruining his hunting for the day, but then he started to laugh and looked at the bear.

In about 15 minutes, Dad and the whole camp were back and tying the bear to a pole. Then they insisted on carrying it out. I wasn't allowed to tote anything except my gun.

There was celebrating that night in

the Little Beaver Camp. I hadn't known this, but mine was the only bear anyone had gotten in the past 20 years. Don't get me wrong—these men aren't the kind who go to a hunting camp for a couple of days and never set foot in the woods. They are all out before daylight, and they hunt hard.

The biggest joke was my sneakers. They said I had to sneak up on him, confuse him with the way I was acting, and then shoot him when he wasn't looking.

Later, when we butchered the bear, we found that the bullet had creased its heart. Nevertheless, this animal had run a quarter-mile before it died. This showed me what kind of endurance the animal had, and it made me feel two different ways. First, it made me proud that out of about 300 bear harvested by many thousands of hunters, I had been one of the lucky ones to score. Second, I knew this animal must have had a strong will to live if it ran that far in the shape it was in, and I felt a little remorse at ending its life. I think, though, if I had it to do all over again, I would.

Available Publications

The following publications are available from the Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. Prices quoted include taxes, handling and postage.

GONE FOR THE DAY, by Ned Smith. All of the outstanding columns and artwork which appeared under this title in **GAME NEWS** during a four-year period. Delightful reading for everyone. 216 pp., \$2.50.

THE WHITE-TAILED DEER IN PENNSYLVANIA, by Stanley E. Forbes. Detailed information on all phases of the whitetail's life. 40 pp., 50 cents.

BIRD AND MAMMAL CHARTS, by Ned Smith. Set 1 (20" x 30") \$2.00. Winter birds, marsh and water birds, waterfowl, birds of prey. Set 2 (20" x 30") \$2.00. Mammals of farm and woodlot, mammals of the mountains, birds of the forest, birds of field and garden. Set 3 (11" x 14") \$2.25. All eight charts listed in Set 1 and Set 2. Individual charts not sold in either size.

Wildlife Economic Values

— The Hunter

By J. Hatter

Director, British Columbia Fish and Wildlife Branch

IN SIMPLEST terms, the hunter's role is that of a natural predator that is still programmed to enjoy a fundamental association with nature. Man the hunter, however, is unlike any other predator in that he has developed a conservation conscience and the powers of reason.

For most of us, subsistence hunting is no longer necessary and in its place recreational hunting has assumed a degree of economic importance in various countries of the world. Undoubtedly, millions of people still hunt to live. Information about the economic significance of wildlife for the survival of native people seems to be rather fragmentary. Students of man's past have shown that hunting and gathering kept our population in balance with nature. It is still too early in man's brief moment of civilization to determine if his departure from this basic life style will spell eventual catastrophe as our civilization continues to proceed against the grain of nature.

Sports hunting is the most sophisticated form of human predation. It is sometimes erroneously called recreational killing, as though this is the motivation for hunting. The carcass of an animal has readily measurable consumptive value to the sports hunter but the value of the hunt, which is the important consideration, cannot be measured as simply. The sport hunter often places a value on the capture of an animal far in excess of its value as food. The true recreational hunter does not equate hunting costs with value of the meat for invariably he could do better in the butcher shop. On the other hand, he does not pay to kill, for if this were the motivation of hunting the abattoires would be full of volunteers.

The sport hunter is paying for something that civilization has all but taken away from him, namely, his early behaviour as a natural predator. Modern man may pay large sums of money to interact in a predator/prey relationship such as his ancestors were naturally and necessarily programmed to do. The hunter no longer has to kill to satisfy his hunger. It is quite possible that the pleasure he receives from hunting is greater than it was for paleolithic man. The Spanish philosopher Ortega y Gasset

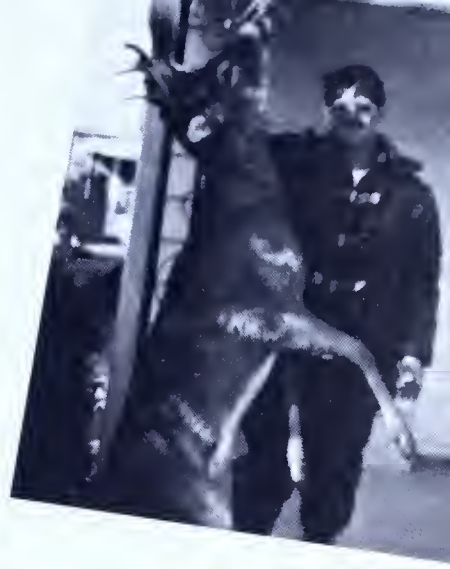
pointed out that man does not hunt to kill but rather he kills in order to have authentically hunted. He does not accept that hunting is recreation but rather something that is more deeply rooted in the inherited or natural behaviour of man.

The hunter's viewpoint is somewhat of a confused one. He knows that he enjoys hunting but he is not altogether certain why. He knows that it is something that he is prepared to pay for. He may view wildlife as an economic asset, a crop to be harvested, or point to information on hunter expenditures in order to explain the benefits of hunting. Generally speaking, however, the economic activity generated by hunting over much of our country is not as great as that of other human endeavours that may even be in conflict with the wildlife resources that provide hunting. This becomes clear to us when we have to defend a piece of deer winter range against the plans for a hydro-electric development. Nevertheless, the hunter is correct when he points out that hunting does have significant impact on the local economy in many parts of our country. It is this fact, rather than hunting as a natural activity, that enables us to be successful in some of our efforts to protect or mitigate against the loss of wildlife habitat.

It is perhaps understandable that our North American hunter is still prone to consider hunting as something he has a right to do. In our world of economic realities, however, he tends to take the common property point of view too literally and may expect to obtain his sport with as few economic constraints as possible. He tends to look upon game animals as having advantage for his family and sporting benefits for himself. Sometimes he may not hunt if the cost exceeds the value of the food to be obtained. This is a totally different point of view to that of English and European hunters who pay heavily for the sport of hunting itself with no benefits accruing to them personally from the game killed. In this respect one might say that much of our hunting is still partially at the subsistence or utilitarian level. There is nothing naturally wrong with this viewpoint or motivation except that it does not provide



SPORTSMEN who have benefitted from wildlife management include Bowser brothers Charles, Dave, Bill and Joel, above, of Johnstown, and turkey hunters Pete Brown, of Penn Mills, and George Bercel, Lower Burrell, below.



MIKE MAUGANS, above, and **Kenny Peirce**, below, of Enhaut. Nice doe was first deer for Kenny, age 12.



HUNTERS' LICENSE MONEY brought pheasants to Pennsylvania, helps in study of wildlife such as bear taken by Tom Tanski, shown with wife Ellen, below right.





MANY HUNTERS, such as Mary Ann Dolnack, shown getting ready for the past season, realize that the future of hunting is threatened and that sportsmen will have to contribute more and work harder to save it.

the hard economic benefits or arguments that are so often needed to protect and enhance the resource.

Public attitudes toward the value of hunting are variable. In some communities people understand its economic importance although they sometimes tend to appreciate the paying hunter more than the reason for his presence, namely the resource base itself.

A larger proportion of country people hunt compared to urban dwellers. In terms of economic costs and benefits, they have the advantage over the city hunter whose hunting trips are more costly and the seasonal success more problematical. People in cities are subject to more anti-hunting propaganda, and as they seldom experience any direct benefits from hunting, economic or otherwise, they may be opposed to it for emotional or anthropomorphic reasons. One of the unfortunate side effects of North American game management is the inability of people who do not hunt to purchase and therefore value the meat of wild animals and birds. This is not the case in the Old

World where game dishes are not the sole prerogative of the hunter or his friends. I suspect that this accounts in large measure for a better understanding by European people of the economic and social benefits of hunting and wildlife.

The unethical or careless hunter is one outcome of our North American tradition of common property hunting. Almost anyone is able to obtain a firearm and, for very little obligation, is free to go hunting. This freedom has been abused and is causing some major problems that are increasing steadily as the public becomes more and more concerned about the use of firearms in criminal situations.

We do not have and often cannot afford the quality control of hunters that is possible in other countries. Consequently, more of our hunters here are less perceptive of public attitudes and less appreciative of wildlife and the hunting opportunity. Hunting is taken for granted because the hunter is not under strict economic and moral obligation as in more heavily populated countries. The social characteristic of hunting in central European countries effectively eliminates the unethical hunter.

Most Evident Threats

The most evident threats to our future opportunity to hunt, in my opinion, are the small amount we pay for the opportunity to do it and the lack of control over our hunters. Many people who appear to be opposed to hunting are really opposed to the hunter. In their minds he is unsafe, unsophisticated and bent on shooting up the countryside. Mass media representation of the hunter tends to further confirm this delusion.

Education directed at improving the attitudes and knowledge of the hunter are long overdue. Only in the past decade have we directed our attention to this important subject. Our less than adequate programs have often suffered from budgetary constraints influenced by the currently weak economic recognition of hunting. Hunter training has had to compete in our budgets with what are commonly referred to as higher priorities. Even today, I expect that many people in wildlife agencies question the need to increase expenditures on hunter education. In this connection we must continually remind ourselves what our goal is as wildlife managers. Sometimes, our goal orientation leaves much to be desired in terms of enhancing respect for the hunter and optimizing his enjoyment of hunting.

Training programs must embrace much more than safety and care in handling firearms. The hunter must be made to convey a better image in respect to his knowledge of wildlife and his respect for

the species he hunts. We must get rid of any remnants of frontier ethics and utilitarian hunting methods that are left and demonstrate that sportsmen are sensitive people with a high code of ethics, understanding and feeling for wildlife. Progress will be difficult due to the low satisfaction or marginally motivated hunters among us and a rather indifferent attitude towards this non-biological challenge for our wildlife managers.

In the past, politics have not been noticeably involved in hunting. As urban populations grow, anti-hunting emotions will likely increase. Politicians will be tempted to take stands varying from neutral to opposed. Those in rural areas will likely remain positive toward hunting, except where the hunter himself causes serious problems through misconduct and arouses further public sentiment.

The nonresident hunter, the one who makes the greatest per capita economic contribution, is usually the first one to face new restrictions and higher hunting fees. This is often politically expedient as it satisfies the demands of constituents who may feel that the nonresident is competing against them. Usually, the nonresident is a more highly motivated and therefore successful hunter, a fact that sometimes arouses resentment on the part of the resident hunters.

Only organized sportsmen seem able to deal with political forces that endanger their sport. The average hunter either thinks he is secure or else his motivation is so low that the future of hunting is not something that causes him serious concern. I would suggest that more hunters had better be heard by politicians because the "antis" are not hesitant to write or speak up.

Hunting in North America as we know it today is already undergoing change. I firmly believe that it is to the long-run benefit of the hunter that he faces up to and encourages higher costs, more rules and more obligations generally. His future will be determined largely by social and economic manifestations because that is how our culture has developed. The hunter can expect no special consideration because he has evolved as a hunter or because he simply likes hunting. He will have to keep alive his desire to hunt by his willingness to use money and conscious effort as the measure of his desire.

It is inevitable that North American hunting will gradually take on more of the characteristics of the successful and accepted Old World systems. It will be a great mistake, in my opinion, if we do not encourage intensive wildlife management operations by private land holders. Only if we go in this direction will the economic value of hunting become generally recognized. If the productive English

countryside were suddenly opened up to the type of hunting we are accustomed to it would only be a couple of seasons until the incentive for management disappeared and bird populations were reduced to a small uneconomic residual level. The three weeks I spent in Europe and England last year broke any illusions I may have had about the lack of opportunities there are for the development of quality hunting adjacent to high population centers. We must make a deliberate effort to bring economic incentives to land owners in such areas or we will witness a continued decline of available land on which to hunt and a further loss of opportunity to build a new image for hunting in areas where this is important.

Hopefully, the beginning of a trend toward intensive management has come in time for us to be able to assist in incentives for the use of private lands for hunting.

North American Tradition

The question of wildlife economic values is a particularly crucial one upon which so many other considerations rest. The difficulty originates in our North American tradition of free access to our wildlife resources. Under this policy the value of hunting has been deliberately withheld from the normal market processes and users are not required to register their evaluation through their willingness to pay prices. Hunting has economic value in the same sense that the satisfaction produced by conventionally marketed goods and services has value. As long as present policies of free access continue there will be serious problems in trying to measure the value of wildlife resources and hunting opportunities.

The lack of clear expressions of economically meaningful values which can be attributed to resources used for hunting and which are directly comparable to the values attributed to other resource uses, has had a crippling effect on the management and husbandry of wildlife. A serious consequence of the value of hunting not being recognized has been the tendency to attract less than the necessary public funds for development and management. Another problem has been the maintenance of quality of the hunting experience when there is no guidance as to how hunters react to and value different experiences. Perhaps of greatest consequence is the less than adequate consideration given to wildlife resources in overall resource management planning, particularly in conflict situations with other resource uses.

In the absence of information about the value of wildlife resources it is difficult for those who must allocate public funds to determine what level of expenditure is

adequate for wildlife management and development. Moreover, with no knowledge of the values created by different types of management programs, wildlife managers have no guidance as to how to allocate the funds they have in order to maximize the total benefits.

It is clear but unfortunately not well enough appreciated by wildlife agency people that there are serious socio-economic problems in the management of wildlife resources in our country. We have great difficulty trying to substantiate what we "feel" are justifiable budget requirements. If the values of the game resources were more clearly stated it is likely that financial support for management and enhancement would be more readily received.

A steady decline in the quality of most individual hunting experiences has followed from our inability to demonstrate hunting values and develop policies to maintain and enhance them. As a result of our system of "free access," and it is in reality just that, the individual hunter's experience tends to be reduced to the "lowest common denominator" by overcrowding and competition from other hunters. This leads to dissatisfaction of hunters and to a reduction in the value of the wildlife resource, with all that this implies. It is ironical that hunting should continue to suffer from the policy of free access which, while it may guarantee the maximum opportunity to hunt, fails to protect the value or quality of the hunting opportunity.

As many of you know, we have contracted several economic studies of hunting in British Columbia. The principle of "willingness to pay" has been used to try to obtain a measurement of the economic value of hunting under our common property or non-market type system. One result of this is a figure of the potential revenue that could be collected from hunters over and above the expenses presently incurred for travel, accommodation, and other hunting costs. In other words, this would be revenue from the sale of hunting opportunities if such were possible.

The value arrived at by Pearse and Bowden was 37 percent of the total amount spent on hunting during the study season 1970-71 and more than ten times the amount which hunters actually paid for hunting licenses. Our hunters were also asked if they would be willing to pay more for their hunting licenses if the money were spent to improve hunting. Fully 78 percent were prepared to pay more toward the costs of game management. This information was helpful to us in raising hunting fees in 1974.

It appears that by increasing the cost of hunting licenses some beneficial results

other than increased revenues are achieved. We found that license sales dropped 17 percent and suspect that this involved mainly the low-satisfaction hunters whose public image is likely the worst.

Increased license fees are only a partial solution to our dilemma of determining the importance of hunting. With declining quality hunters are prepared to pay only so much.

Calculation of the value of hunting by asking hunters what they would pay if they could, is no substitute for the actual measurement of prices in operation. The respondent's evaluation of hunting is based on his past experience which may bear no similarity to the unknown experience provided by new management method. Hence the total estimated value arrived at from willingness to pay questionnaires is likely to be on the low side.

What is needed are actual demonstrations of what can be accomplished for quality hunting by experimenting with one or more of the Old World methods of game management. We likely face nothing but an uphill effort to try to convince our hunters and perhaps governments too that they lose nothing by experimentation. Experience to date suggests that sportsmen will oppose efforts to introduce practices that involve private initiatives. These will also meet resistance from wildlife biologists who are rather exclusive to our American system of hunting. Wildlife biologists may refer to intensive management in a derogative way as nothing but animal husbandry. That may well be the case, but as game managers we had better ask ourselves which we put first, our personal animal-oriented scientific interests or the enhancement of opportunities for our hunters.

There need be no fear by sportsmen that intensive management with all its associated costs can be applied to sparsely populated and lightly hunted areas. What we need are intensive management areas not simply to determine the economic value of hunting but also to provide hunters the opportunity for choice and selection of different levels of quality instead of being reduced to the same common denominator.

The troubles plaguing the North American hunter, and this includes wildlife managers as well, are symptoms and warnings about our system. Improvements will not happen, we will have to make them happen.

This article is the text of a paper presented to the 39th Federal-Provincial Wildlife Conference at St. John's, Newfoundland in mid-1975, and is used with the permission of Mr. Hatter, Director of the Fish and Wildlife Branch of British Columbia.



WE CAN EXPLAIN AWAY MANY of the old ideas and myths, but we shouldn't discard them. They provide us with a link to yesterday.

Rambling Through Fall and Winter

By Eugene R. Slatick

FALL AND winter seem to have been made for thoughtful ramblings. It's as if the cold weather, somber woods and fields, and shorter days all combine to start a person reflecting about things that have been in the back of the mind during warmer, richer months. Fall and winter are laced with folklore, myths, and natural changes that are worth pondering. We can explain away many of the old ideas, but we shouldn't discard them. They provide us with a link to yesteryear—to rural America, the pioneers, the Indians. Seasonal changes show us part of Nature's rhythm. Our spirit of wonder and appreciation can be re-kindled.

In September we accept the fact that summer is behind us and a strikingly different time of the year is coming. Near the middle of the month

the "harvest moon" appears over the horizon about sunset. It is so bright that farmers can harvest into the late evening, and it was a godsend for the pioneer farmers. For many of us it is a pleasant time for an evening stroll.

Fall really begins when the autumnal equinox arrives on September 22 or 23, depending on the year. On that date we have an equal amount of day and night. From then on the days seem to be noticeably shorter, even though the change is only a few minutes each day.

September is a busy time for birds. Their broods raised, they get ready for the new season. Some of them stay and search out places that will provide a supply of food. Others migrate to warmer, more hospitable areas. A long time ago people thought that the migrants spent the winter hibernating

in secluded places, like the mud of ponds or crevices in rocks.

October arrives with jacket-cool weather and brisk winds tell us most assuredly that fall is settling in. Yet, as naturalist John Burroughs wrote, the seasons change like the tides. The new season comes forward, retreats, comes again a little more strongly, retreats a bit, and then eventually settles in. This "tide of the seasons" is noticeable in October.

When fall retreats for a while and the cold days and frosty nights warm up, we are treated to Indian summer. There might be two or more of these balmy periods. They occur when a mass of cold air blows down from the north and becomes warmer, trapping haze and smoke. A more imaginative and older explanation tells us that a benevolent God sends the warm weather to give the Indians more time to prepare for winter.

During Indian summer, we forget an earlier visit by an outdoor artist named Jack Frost. His coloring of the

autumn leaves and icy designs on window panes have been admired for hundreds of years. In Norse mythology he is called Jokul Frosti, which means "icicle frost." He has a son named Snjo, whom we meet later as "snow." Scientists tell us that Jack Frost paints with a mixture of cold weather and short days, combined with plant pigments called anthocyanins and carotenoids. His icy designs follow an ancient pattern provided by Nature.

October's full moon also makes its appearance before sunset, but this time it is called the "hunter's moon." The term originated long before the present hunting seasons were established. Most hunters take to the outdoors in late October or November, so the hunter's moon serves mainly as an old reminder to prepare for the season. Migrating geese often join the hunter's moon in the night sky. The sound of the flock honking from above is not easily forgotten. Where are they in that black sky? How can they find their way?

Late in the month, when the trees have lost their bright colors and the woods and fields take on more somber hues, the pumpkin and its orange color become fashionable at Halloween. As everyone knows, that is when numerous unusual little creatures make their annual nocturnal appearance. Many pumpkins are carved into jack-o-lanterns. The name really straddles two seasons, for it also refers to the phosphorescent lights that sometimes hover over swamps at night during warm weather. Scientists say the phenomenon is caused by the spontaneous combustion of swamp gas. Many persons with imaginative minds will need to be convinced about that.

November's woods and fields are cold, and the wind bites with authority. But the hunter, his red and orange garb adding color to the scene, doesn't mind too much. He has waited all year for the chance to be afield. In some parts of the state, the Snow Spirit of the Indian has already come



NOVEMBER'S MOON is the "beaver's moon." By now the beaver and his house are all set for winter, all is snug at the beaver pond, and we also should be ready for the winter by this time.

down from the north, leaving behind a fresh blanket that brightens the landscape.

November's moon is the "beaver's moon." One of the reasons for the name supposedly is that the beaver's pelt is in its prime at this time and ready to be harvested. Another is that the beaver and his house are all set for winter, all is snug at the beaver pond, and that we should also be ready for winter by this time.

November's days end early, and the night's cold air seems to make the stars whiter and the sky blacker. The bare trees allow us to see more of the universe. The constellation Ursa Major—the Great Bear or Big Dipper—hangs low in the sky. It is the outdoorsman's signpost to Polaris, the North Star. Ursa Minor—the Little Bear or Little Dipper—dangles from Polaris, which forms the tip of the bear's tail. According to an Indian legend, the Great Spirit put these bears in the sky and rotates them during the year so that the bears on earth will know when to prepare for cold weather. When the heavenly bears are beneath the North Star, they are said to be in their dens, for it is winter and time for sleeping. When they are above the North Star, it is summer and time to be out of the den.

The Hunter

Orion, the Hunter, is another constellation easily spotted in the southern sky. Look for the three stars in his belt, and the bright star, Betelgeuse, in his shoulder. Near him is Canis Major, the Great Dog, with the brightly shining Sirius, the Dog Star. Canis Minor, the Little Dog, is also nearby. Crouching along the horizon is Lepus, the constellation of the Hare. October may have its hunter's moon, but November has the "hunter's constellations."

November also has Thanksgiving, which the Pilgrims first celebrated in 1621. The early farmers commonly enjoyed it in August; since 1941, we have officially celebrated it on the



JANUARY'S MOON is the "wolf moon," according to the Indians, because the wolves, driven by winter's hunger pangs, searched for prey by moonlight.

fourth Thursday of November. The turkey, a native American bird, becomes popular at Thanksgiving. The pioneers said that turkeys were numerous throughout the state. They were such easy prey that they were almost wiped out by about 1800; today's wild turkey would have made the pioneers tell a different story. Ben Franklin wanted the turkey to be our national bird because of its many admirable qualities, but the bald eagle was chosen. At Thanksgiving, though, the turkey really becomes our national bird.

By December, the Snow Spirit has generally visited most of the state. He helps the hunter by showing him the tracks of the deer. But the help is not one-sided, for a blanket of snow on the forest floor also enables the deer to see the hunter stalking through the woods.

December is a hard month for animals. Food is scarce and nights are long and cold. Many animals sleep out the season. Turtles are hibernating in the mud of a pond; chipmunks are fast asleep in their burrows.

But December is also a turning

point. Around December 22, the winter solstice occurs, bringing us the longest night and the shortest day. Then the days begin to grow longer. It is a good time to make an interim check on the earlier predictions of our natural weather forecasters. Did the woolly bear caterpillar give us the best forecast? The width of his brown band is supposed to indicate the severity of the winter—the wider the band, the milder the winter, and vice versa. Were those corn husks thicker than usual? If so, we are in for a cold winter.

Holiday Spirit

December's snows have a holiday spirit to them, particularly if they come for Christmas. A single snowflake is delicate and feathery, a work of art. But when they are united in a blizzard they become troublesome, especially in the cities. Yet the sight of a snow-covered landscape after the storm seems to make amends for all the trouble it may have caused. The juncos, or "snowbirds," reappear and hop across the snow, searching for food, while the chickadees flutter through snow-laden branches. Such things are often appreciated more at Christmas than at other times of the season.

The last part of the season, January through early March, is the reverse of the first, but the cycle changes slowly. January is cold, although the longer days are often clear and bright. Ice on the rivers and lakes rumbles under the warmer sun. A bird occasionally tries out a song. The black bear gives birth to tiny cubs while still slumbering in its den. Cubs weigh only about eight ounces at birth but will be a hefty five pounds by spring.

January's full moon is the "wolf moon." The Indians gave it the name because the wolves, driven by winter's hunger pangs, would search for prey by moonlight. Wolves were said to be the most destructive animals in pioneer days, particularly dangerous to sheep and calves. Today the wolf

moon is a quiet reminder of hard times in the past.

The tides of spring become noticeable in February. To be sure, the month has snow and cold north winds. But it also has thaws, ducks on open waters, bird migrants, and skunk cabbage, an early sign of spring.

On the second of the month we consult the groundhog about the weather for the rest of the season. According to legend, if he comes out and doesn't see his shadow, we can breathe a sigh of relief because mild temperatures are ahead. But if he peeks out, sees his shadow and goes back into the burrow, we should prepare for more cold weather.

We can look at an almanac for another prediction, even though we may not put much faith in it. But in the past, before radio, television, and daily weather reports, the almanac was an important book. It not only gave our forefathers an idea of what the weather would be like, but it also told them when there would be such useful things as a full moon, which would provide light for traveling or working after dark.

March is gusty winds, pussy willows, hepatica, crocuses, scampering chipmunks, redwing blackbirds, bird song, floods, and spring peepers. March watches spring move northward at about 17 miles a day. We can see it climb the hillsides; each day it leaps about 100 feet higher up the slope.

Behind the Line

The Canada goose instinctively senses the new season and returns to the north following 35° temperatures, just behind the average freezing line. Swallows appear behind the 48° line, the temperature that brings many insects out. And as if to make it official, the huge astronomical clock turns to the vernal equinox on about March 21. Once again we have an equal amount of day and night. Then the days get even longer and warmer, nourishing and nurturing new life and new spirit—the marks of spring.



Photo by Tom Fegely

THE FOREST GAME COOPERATIVE PROGRAM has opened more than a half-million acres of prime country to Pennsylvania's hunters.

The Forest Game Cooperative Program

By Dave Drakula

IT WAS cold, and a light snow covered the mountains. I knew the leaves were frozen and walking quietly would be nearly impossible, so I stayed on the dirt road, moving slowly and carefully. If I was lucky and observant, I might be able to catch a flock of turkeys feeding on beechnuts.

Far off an airplane droned and nearby a hairy woodpecker played percussionist. Deer tracks crisscrossed the road.

In between steps I heard a loud rustling sound. I stopped and listened. Something was feeding in the leaves, brushing them aside and picking through them. Turkeys, I thought. It must be turkeys.

I eased the rifle off my shoulder, crept to the edge of the mountain, and

peeked over. Two gray squirrels were busy sifting through the frozen leaves. I smiled, backed silently away, and continued down the road.

This particular scene took place in McKean County on a 15,000-acre tract of land owned by the Hammermill Paper Co. I had parked my pickup near a Hammermill gate a quarter of a mile away. The sign on the gate stated that the road was closed to vehicles. It further stated that, through the courtesy of the landowner, I could hunt there.

I knew I could repeat the scene in many places throughout Pennsylvania. The basic reason was an agreement between the Pennsylvania Game Commission and private landowners called the Forest Game Cooperative Program.

The Forest Game Cooperative Program was initiated in 1971 through the combined efforts of the Pennsylvania Game Commission and private landowners with forest holdings of 1000 acres or more. Early discussions revolved around the Game Commission's Farm Game Cooperative Program and its success in keeping farmland open to public hunting. Eventually, the same basic ideas were applied to forested areas. The Forest Game Cooperative Program began to take shape. As of October 1975, the Game Commission had 17 cooperators (a list follows) in the program, with a total of over 511,000 acres signed up and opened to hunting.

Private Lands Open

The basic purpose of the program is to make these private lands available to public hunting and at the same time to offer the landowner protection against road and tree damage, trash dumping, abandoned vehicles, theft and vandalism.

Under the agreement, the Game Commission supplies various types of signs for posting roads against vehicular traffic, and the game protector and his deputies are responsible for enforcing the regulations. Some companies supply additional signs which are posted along with those of the Game Commission. When funds become available, the Commission may, with the permission of the landowner, improve food and habitat conditions for wildlife.

Early last spring I spent several days talking to some of the cooperators. One day was spent with Dave Anderson of the Hammermill Paper Co. I asked him what the basic reason was for Hammermill's signing on as a cooperator.

"Vehicles and roads," Anderson answered. "It costs us approximately \$1400 per mile to put in a dirt road so we can harvest our timber. After construction, we post those roads or put gates on them. But this doesn't stop some people. They drive the roads during wet periods and conse-

quently do extensive damage. Deer season, for example, is one of our worst times. It was just getting to cost us too much money. One gate had to be replaced several times and cost us about \$600."

Anderson's reply closely parallels the comments of other cooperators. Severely rutted roads, broken gates, damaged equipment and litter were all-too-frequent occurrences. Unfortunately, many of these problems were hunter-related.

Tree stand construction is another problem many landowners face. Good saw logs are frequently damaged when nails are driven into trees, and metal fasteners, brackets or wires are attached to them while constructing the platform. Littering around the stands is sometimes a problem.

The Game Commission could do little to help with these problems unless a game law was violated in the process, but it did set up regulations covering the use of vehicles on lands leased.

Has the situation improved since the landowners became part of the program?

"Overall, I'd have to say yes," Anderson replied. "The Game Commission people do an excellent job. Arrests are made each year and the traffic on our posted roads has been reduced."

Steve Novosel of Novosel Industries, based in Kane, is also impressed with the Forest Game Program.

"I entered the program because my logging tools and gasoline were being stolen and there was extensive road damage and littering on my property. Conditions have definitely improved since the agreement was established. None of these problems now exist on my land."

The Forest Game Cooperative Program is not intended to prevent hunters from pursuing their sport. On the contrary, heavy deer browsing on forest regeneration areas is a big problem for many landowners. "We want hunters on our land," Dave Anderson told me. "But we want responsible

hunters, hunters who obey the rules and are willing to walk into an area to hunt.”

What are the alternatives to a Forest Game Cooperative Program?

Harold H. Holfinger, Jr., timber resources manager for the Robert Mallery Lumber Co., answers that question.

“The most effective alternative to reducing economic losses caused by the public would be to totally exclude the public. This could possibly be done at a profit if various large tracts of land were leased out to individuals or clubs, which in turn would post the land and patrol it. This system has worked effectively in most parts of the country. Without better understanding and cooperation from the public and governmental agencies, it may well be implemented on a large scale in this area.”

Surely, any rational hunter would prefer the Forest Game Cooperative Program to an alternative such as this.

Which approach will be followed is up to the hunter. He is one of the big users of forested land. He knows he cannot afford to see more land closed to public hunting. Each year, many areas of private land are lost to hunters through posting; urban sprawl and construction of houses, highways, and business centers reduce total open space in the state at a rate of about 43,000 acres a year.

Many older hunters fondly recall the days when they “walked in” to a hunting camp carrying supplies on their backs. In view of today’s tech-

nology, suggesting that activity might seem absurd and I am not doing it. Nevertheless, it is time that the hunter who operates a vehicle realizes that he should not be able to drive to every ridge and hollow just because a road is there.

Landowners in the Forest Game Cooperative Program are willing to open their land to the hunter. All they ask is that he obey the rules and use a little more footpower rather than horsepower. And that’s not asking much in return for a lot of fine recreation.

Name	Acres
Hammermill Paper Co.	157,569
Texas Gulf Inc.	119,549
Collins Pine Co.	96,968
Sylvania Corporation	38,397
The Mars Company	37,194
Rochester & Pittsburgh Coal Company	30,285
Lock Haven Water Co.	5,200
Chatham Water Co.	5,200
Novosel Lumber Co.	5,000
City of Lebanon Water Company	4,362
Emporium Water Co.	3,169
Robert Mallery Lumber Co.	2,000
Pennsylvania Gas Co.	1,709
Elk Lick Reserve, Donald M. Davies	1,500
W. G. Jones	1,297
M. A. Lawson	1,200
Larimer & Norton	1,078
Total	511,677

Hazardous Flying Conditions

The flying squirrel begins to reach old age at three years and seldom lives to be five or six.

On Their Own

Young ground squirrels are usually ready to leave home and forage for themselves by the time they’re five weeks old.



BEFORE a trapper makes his set, above, he must first find muskrat territory. Below, Jack Harvey, of West Chester, and Chris Dolnack check sign in swampy area bordering a creek.



BELOW, Harvey checks trap he set under overhanging bank. He's trapped the same Chester County streams for 48 years.



Muskra

The prolific muskrat is a furbearer in Pennsylvania. They are brought to market. On the owner's permission, they can walk upstream while carrying a stick to stream bottom, use head in deep water, carry a stick to insulate your hands. It's good recreation, and it's a try it out?



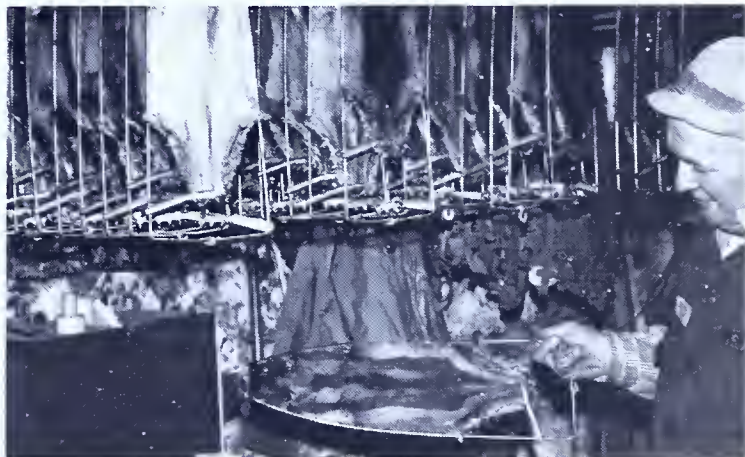


apping

the most-sought-after
year, many thousands
apping tips: get land-
ing private property,
traps so as not to roil
to anchor trap chains
back, wear rubber gloves
old water. Trapping is
profitable too; why not

George Dolnack

OBJECT of the trapper's quest is the well-furred muskrat, above. As cuts, rips and over-stretching reduce a pelt's value, Harvey takes great care in handling his furs. Below, he inspects stretched pelt.



HARVEY traps the larger streams early in season, saves smaller runs for late season trapping. Below left, young trapper checks catch. Note stick used as wading staff, trap remover and "third hand."





FIELD NOTES



A Good Turn

CLARION COUNTY—While checking a well-known, heavily hunted bear area in my district, I stopped and talked with some hunters from Monroeville who were spending the weekend in a camper and planned to hunt bear the following Monday. We discovered that they spent Sunday afternoon picking up trash along a couple miles of road where they were parked.—District Game Protector J. G. Bowers, Knox.



Everything OK in the Wash

Waterfowl hunters in Williams swamp, just south of Mercer, had a little bonus to go along with good shooting one day. DGP Larry Heade and I were on foot patrol when we wandered into a boggy area. We both sank rapidly with nothing to hold onto but each other, to the amusement of a few hunters. After considerable jostling, we managed to get free of the muck and resume our patrol.—Trainee G. A. O'Hara.

Timber-r-r!

An irate hunter called the Northwest Division Office Sunday afternoon before buck season. "Me and my buddy spent all day Saturday building a tree stand and somebody went and cut the tree down," he complained. I asked him if it was on his property. "I don't know whose property it was on," he replied. When I asked his name and the location of the incident, the phone went dead. Somehow I feel that the landowner of this property owns a chain saw. The complaineer should be grateful the saw didn't start up at 6:56 a.m. on Monday, December 1.—Conservation Information Assistant F. H. Servey, Franklin.

A Taste for Horseflesh?

SCHUYLKILL COUNTY—Deputy Joe Longo, of Sheppton, received a call from a local farmer that there was a bear on his property. Joe and his wife Lois hopped into their vehicle; when they got to the farmer's place, they noticed a horse running in a circle. When he turned on his spotlight, Joe saw the bear chasing and swiping at the horse. The bear ran off when the light hit it. Joe estimated that the bear weighed 400 pounds and figured it was probably the same one that had killed some stock in Columbia County. The fact that the horse was tethered to a long rope and was able to run in a fairly large circle probably saved its life.—District Game Protector S. L. Opet, Tamaqua.

Question and Answer Period

TRAINING SCHOOL — Although I was transferred to the Game Commission Training School in January of 1975, the general public still telephones my house in Huntingdon to ask questions pertaining to the outdoors. (My family still lives there.) During early October, a female caller asked, "Do raccoons hibernate now?" My son Monte: "Raccoons aren't true hibernators, and anyway they wouldn't hibernate now." "Do they breathe when they hibernate? This one isn't breathing." Monte: "Yes they breathe more slowly." Female voice: "Are they stiff and cold when they hibernate? This one is stiff and cold." Monte: "No, they aren't stiff and cold." Female voice: "Well, this one is stiff and cold and isn't breathing; what do you think is the matter with it?" Monte: "It's dead!" Voice: "Thank you." End of conservation.—Assistant Supervisor of Training R. D. Furry, Brockway.

The Dividends Return

McKEAN COUNTY—Wildlife provides recreation and enjoyment to many people besides hunters. Many non-hunters feed, watch and photograph songbirds, rabbits and deer the year 'round. In the fall, they watch deer along the roads. They listen to the wild geese call on their journey North and South each year. And when fall comes, Mother Nature says that surplus animals should be removed. The hunter takes to the woods and fields to perform this task; under the direction of the Game Commission, the surplus is harvested and a breeding population maintained for next year. Because of game management, all of us—hunters and non-hunters—can enjoy the return of wildlife next spring.—District Game Protector G. W. Waldman, Lewis Run.



Shucks, It's Expired

It was interesting when a DGP and Trainee were called into an area already under surveillance by two irate farmers and one State Trooper. It was more interesting when the violator was apprehended for shooting a dove before noon opening, shooting a hen pheasant out of season, committing a safety zone violation, trespassing and hunting without a current license. It was even more interesting when we had to go to the Dublin State Police barracks to find an interpreter to talk to the violator, who didn't speak English. But when he produced a 1969 hunting license from a European country, I knew we had us a Field Note!—Trainee R. G. MacWilliams.

Cheap Shot Expensive

FOREST COUNTY — This year hunters appear to be pretty careless on firearm safety. Quite a number still insist on carrying loaded firearms in their vehicles for cheap shots at game. Two fellows tried to unload their rifles before we caught them and accidentally blew the rear window out of their car.—District Game Protector A. N. Pedder, Marienville.



Scared or Searching?

I'd like to relate a story told by a coon hunter. It seems this man had a remarkable dog that made him the envy of every other hunter in the state. All he had to do was to show the dog a stretching board the size of the coon he wanted, and the dog would go out and bring one back to fit. Then one day the man's wife set out her old wooden ironing board to be painted. The dog took one look at the board and headed for the woods to find a coon to fit it. The dog hasn't been seen since!—Trainee J. A. Shutter, Jr.

Shoulda Kept His Mouth Shut

BRADFORD COUNTY — We've all heard about the painful series of rabies shots which one must take after being bitten by an animal. The other day I heard on the radio that a soldier in the West German Army was out on bivouac and was sleeping in a typical army sleeping bag, with only his face exposed. He woke up when he felt something on his face; a fox had come up and rested his paw on the soldier's face. Unable to free his hands, the man did the only thing he could—bite the fox's paw. The fox ran, the soldier went to the medics and still had to take his shots.—District Game Protector W. A. Bower, Troy.

Played Possum

FRANKLIN COUNTY — Jerry Mentzer of Chambersburg told me about "the one that (almost) got away" from him last small game season. Jerry and his brother were hunting a corn strip when a ringneck flushed and Jerry got it. Then a second bird flushed and he got it, too. Feeling pretty good, both men continued hunting and stopped to show the farmer their two ringnecks. Jerry took both birds out of his coat, held them by the necks to show the farmer and put them back. About an hour later, he felt a ruckus in his game coat and out jumped one of the "dead" ringnecks. Jerry said he was so startled that he almost forgot to shoot again as the bird started hightailing it for the nearest cover. Regaining his cool, Jerry managed to get the bird. For keeps this time!—District Game Protector F. B. Clark, Fayetteville.

Gargantuan Intruder

CENTRE COUNTY — My wife Linda received a phone call this month which started out with the caller assuring her that he had not been drinking, was of sound mind and was not playing a practical joke. Then he told her there was an elephant in his garden. The elephant's owner was notified and one more damage complaint was cheerfully handled by your Pennsylvania Game Commission.—District Game Protector G. F. Mock, Coburn.

Gourmandism

HUNTINGDON COUNTY — Andy Ciampa of Shore Valley observed a bear feeding in his corn field several times this fall. The bear was a real glutton and would devour between 25 and 35 ears of corn in one meal.—District Game Protector D. J. Adams, Saltillo.

Cooled Down Kitty

CLEARFIELD COUNTY — This past month I had my first experience at removing a bobcat from a fox trap. Deputy Krupa and I took one look at the problem and knew we had trouble. The bobcat was pretty wild, and after several unsuccessful tries with a long pole, I remembered what the old-time game protector (who is now Law Enforcement Assistant in the Northcentral Division) said about how to handle this type of problem. I sent Krupa to the vehicle to get a blanket. Finally we got the blanket over the bobcat. About a minute later the cat calmed down, and I took the trap off his foot. Now I know why I'm not the LEA.—District Game Protector W. A. McGinness, Clearfield.

Precision

LYCOMING COUNTY — While checking hunting license applications, we found that some people are very exact in answering questions. One young lady put down under "weight," Pregnant: expanding. Normal: 120.—District Game Protector P. A. Ranck, Williamsport.

Erie Red-Ruff

ERIE COUNTY — Prior to grouse season, a sportsman appeared at my office and said he had just hit a grouse with his car. He had put it in a box, which he gave to me. I figured the bird would be dead by morning but was surprised to find it very much alive. I drove to a large tract of woods, opened the box and out hopped a large male grouse with the most beautiful red ruff and tail you ever saw. He strutted on the hood of my car for a moment and then flew off into the woods. You guessed it, the camera was at home.—District Game Protector R. W. Meyer, Fairview.

And Now He's 91

SULLIVAN COUNTY — Reviewing hunting license applications, I came across an interesting one. F. C. Mosier, Overton Road, Dushore, Pa., Age 90, Date of Birth—12/17/1884, Resident of Pennsylvania since birth. Hunting is not only for the young.—District Game Protector B. R. Hambley, Laporte.

He Built a Better 'Rat Trap

BERKS COUNTY — Deputy Clair Miller was setting traps for muskrats on the opening day of the season, and before he got back to the end of his freshly set trap line, he discovered a muskrat in one of his traps. Less than a half-hour had elapsed from the time he set the trap until he discovered the muskrat. That's what you call speedy! —District Game Protector J. J. Snyder, Kutztown.



Bigfoot Season?

While on routine patrol with DGP Szilvasi, we happened upon a very unusual hunter. Besides being dressed in buckskins and a fluorescent orange hardhat, he was hunting a very unusual species of wildlife. He stated that he was looking for "Bigfoot."—Trainee F. S. Zalik.

Buck Drew Blood

CRAWFORD COUNTY—On opening day of antlered deer season, Deputies Price and Terejko checked a hunter who had blood on his face from some cuts. The hunter said he saw a buck enter some pine trees, and when it exited the pines the buck ran over the hunter.—District Game Protector H. L. Harshaw, Meadville.



Man-Made Conditions

CAMBRIA COUNTY — In spite of creeks poisoned with mine acid, gorged with raw sewage and choked with trash and garbage, the prolific muskrat prevails in Cambria County. It gives me great faith to know that in spite of the conditions man has created, wildlife can still prevail in many areas.—District Game Protector D. W. Jenkins, Patton.

Didn't You Read the NEWS?

While assigned for field training with DGP Perry Hilbert in Lebanon County, I read the article, "The Law's Long Arm" in the November GAME NEWS. The same violator was apprehended again that very same evening for jacklighting another deer.—Trainee E. L. Camp.

(Shudder!) A Game Protector!

ADAMS COUNTY — One evening, Student Officer Shutter, Deputy Glenn Herring and I stopped two men in an orchard. They were riding in a convertible with the top down and a loaded shotgun inside. One man asked Shutter, "Just what are you doing out here in an orchard at this time of the night?" Shutter's reply was, "Just waiting for someone like you to come along with a loaded gun!"—District Game Protector G. W. Becker, Aspers.

Injury Plus Insult

POTTER COUNTY—It wasn't bad enough that a black bear had to bounce on the roof and cause over \$500 damage to a car belonging to Phil Young of Germania. Several weeks later a bruin walked in while the Youngs were away and ate a \$56 order of cheeses and baked goods left at the doorstep by UPS. All the Youngs could find were tin cans (chewed up) and papers scattered through the woods. Phil hunted during bear season but couldn't even locate a track.—District Game Protector R. G. Clouser, Galeton.

Good-By-y-y-y

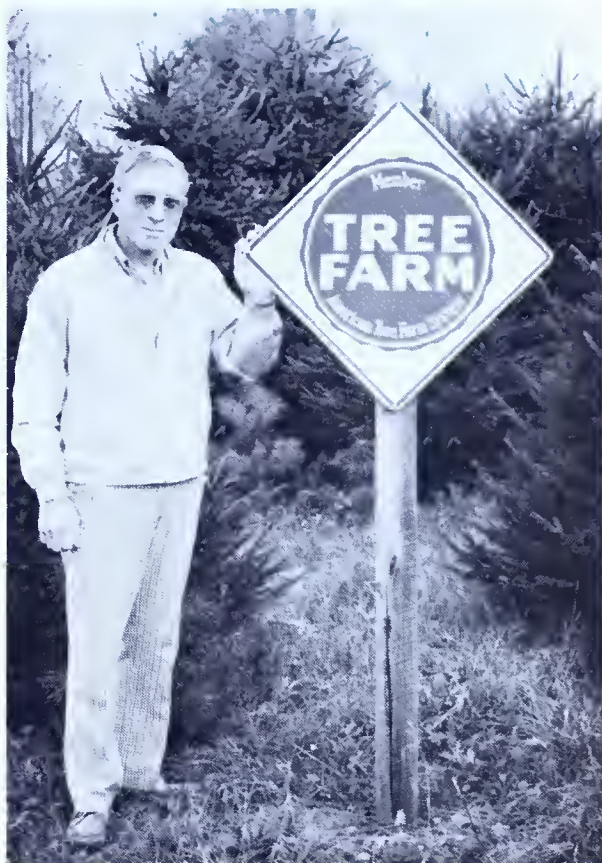
PERRY COUNTY — Then there's the story about the deputy and his friend who were working night patrol. The deputy stopped beside the road to check a spotlihter. Unknown to the deputy, he had stopped beside a culvert. His friend got out on the other side of the car, took one or two steps and disappeared. You'll have nights like this!—District Game Protector L. L. Everett, Newport.



By Ted Godshall

Top Tree Farmer

Deputy George Snyder, Wayne County, was recently voted the Outstanding Tree Farmer of Pennsylvania for 1975. Snyder, a deputy since 1954, was one of 846 competitors in the state competition, which took place in Clearfield. In 1959, Snyder purchased a 325-acre tract near Lookout. Forestry practices included the removal of inferior trees, the planting of over 25,000 conifer seedlings and 5000 shrub seedlings. To date, 5000 Christmas trees have been harvested and 60 acres are being timbered on a rotating schedule. Snyder has seeded all skidways, controlled erosion, built diversion terraces and installed tile fields where necessary. Besides protecting the watershed, this management has greatly improved food and cover for wildlife in the area. District Forester Anthony Santoli provided the technical planning for the tract. Snyder also constructed a 14-acre pond for bass.—DGP Fred Weigelt



Deputy George Snyder

New SGL Maps Available

The Game Commission has recently completed a series of "Sportsmen's Recreation Maps" of every State Game Land in Pennsylvania. These maps are each 9x15 inches. Four different colors have been used to show streams, roads, towns in the surrounding area, trails, parking areas and prominent land features within the game land.

Map scales are 1 inch=2000 feet or 1 inch=4000 feet, depending on the size of the State Game Land. A narrative description of each SGL provides information on game species

found there, recreational use of the land, food plots, acreage, etc. Work on this series of maps has been underway since 1969.

The maps cost 25 cents each and are available from the Pennsylvania Game Commission, Division of Land Management, PO Box 1567, Harrisburg, Pa. 17120. When ordering, specify State Game Lands by number. (Numbers can be obtained from local district game protectors, from the official Pennsylvania highway map, or from the "List of Maps" available on request from the above address.)



THE THIRD ANNUAL Big Game Trophy Exhibit will be held at Castle Garden, Dorney Park, in Allentown as part of the Outdoor Expo '76 Sports Show, March 3-7. Several hundred entries are expected at this "outdoors only" show. A new feature will be an Outdoor Photo Contest. Information available from Queen City Promotions, 1822 Green St., Allentown, Pa. 18104 (phone 215 - 433-3288).



SETH MYERS, left, receives citation from Robert Sutherland of the Pennsylvania Game Commission as Dave DeHaven, president of the PFSC looks on.

Seth Myers, far left, of Sharon, who for decades has been active in conservation work on both the state and national levels, receives a citation from Robert Sutherland of the Pennsylvania Game Commission. The award was a testimonial to Myers' 41 years of service to the Western Reserve Fish and Game Protective Association, which he helped found many years ago. Sutherland and Dave DeHaven, center, president of the Pennsylvania Federation of Sportsmen's Clubs, were speakers at the gala occasion attended by over 250 persons to honor Myers. Included in the honors was one from the National Wildlife Federation citing Myers for his "perseverance and dependability." Myers, a life member of Pennsylvania Outdoor Writers Association and Outdoor Writers Association of America, is outdoor editor of *The Sharon Herald* and outdoor commentator for radio station WPIC in Sharon.

Days of Yore



THIS WAS THE Locked Antlers Hunting Club, built on a site about two miles northwest of Caledonia State Park where two old stags fought to their death many years ago. Members hunting at camp in 1921 were, seated, John Shoemaker, Joshua Sharpe, Dr. M. W. Straley, Thomas Horn; standing, Elmer Drawbaugh, Bert Stumbaugh, Maurice Wilkinson, Lester Marshall, Maurice Rhodes, Clarence Jacobs, Clarence Musser, _____, John Martin, and Samuel Reed. Charles E. Duffield, now in his 90s, is the last surviving member of the club. Photo from W. W. Britton.

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Books in Brief . . .

(Order from publisher, not from Game Commission)

The following books are available from Winchester Press, 205 E. 42nd St., NYC 10017.

An American Crusade for Wildlife, by James B. Trefethen, 409 pp., \$12.50. This book could well be called a history of wildlife conservation in America. Trefethen, director of publications for the Wildlife Management Institute and a professional conservationist who has spent a lifetime studying the history of wildlife, here details the evolution of public attitudes toward this continent's animals and birds. He covers all viewpoints, from those of pioneer times to today's opposing extremists, the exploiters and the preservationists. Overall, a heartening book: seeing the seemingly insurmountable problems that were overcome in the past gives faith for the future.

Troubles With Bird Dogs . . . And What to Do About Them, by George Bird Evans, 307 pp., \$10, is based on case histories of dogs the author has gunned over, loved, and understood. It covers all kinds of dogs—pups and finished performers, natural hunters and problem dogs—as well as breeding, bloodlines, conditioning, and, perhaps most important, a training philosophy blended from Evans' own ideas and methods that have proved effective for over a century.

Handgun Hunting, by Major George C. Nonte, Jr. and Lee E. Jurras, 245 pp., \$8.95. For gunners, the ultimate hunting challenge is getting close enough to their quarry to place a handgun bullet in a vital area for a quick kill. Here, two recognized experts give detailed information on all classes and styles of suitable handguns and loads, with a great amount of hunting data based on firsthand experiences in Africa as well as across the U.S. By comparison, rifle hunting has to be easy.

American Sportsmen and the Origins of Conservation, by John F. Reiger, 316 pp., \$10. It has become fashionable for armchair ecologists to vilify sportsmen—especially hunters—as wastrels and wildlife destroyers who care nothing about the environment. The fact is, as Reiger points out, sportsmen, especially hunters, initiated the modern conservation movement and continue to be its most important supporters and activists. Reiger describes the struggle to save America's wildlife and wilderness from profiteering exploiters.

The History of Winchester Firearms, 1866-1975, 4th ed., by George R. Watrous, Thomas E. Hall and James C. Rikhoff, 229 pp., slipcased, \$15. A fully illustrated history of all the guns produced by Winchester, including the Commemorative lever actions, the Canadian and European Winchester Commemoratives, air rifles and pistols and others—in all, more than 50 guns not pictured in the previous edition appear here. There is no more famous name in guns than Winchester. This book is an invaluable reference work.

GAME NEWS Cover Prints Available

In answer to numerous requests, we can now supply a selection of GAME NEWS covers in a size and format suitable for framing. A set of four covers, all by internationally-acclaimed wildlife artist Ned Smith, now is available. These are full-color prints, enlarged to 9x12 inches on 11x14 heavy, coated paper, without the GAME NEWS logo. The set includes Ned's woodcock from the April 1974 issue; the woodchuck from July 1974; the doves from September 1972, and the buck and doe from the December 1971 issue. These prints are not available individually. The price is \$3 per set, delivered. Make check or money order payable to Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.

WOODLAND THOUGHTS

BY LOU HOFFMAN

Wildlife Education Specialist



Winter walks are a must for the outdoorsman. They complement and enhance those long fireside evenings, niceties of winter's short days. Woodsy solitude is another plus for the season—that is if you can get away from the mechanical snow buffs. But a definite shortage of the fine powder has even taken care of that problem these past few years. The woods have been still in winter.

Gentle, wooded ridges show the exposed roots of peaks long since worn down by erosion. Uprooted trees, gullies, washouts, and some less dramatic signs also leave notice of weathering process. But these basement layers offer more than rock and soil, as plants and animals provide a living covering to the earth; man, taking in all of these ingredients, grows richer. There's much to discover in a barren woods, but the looker has to look closely. Some of the "secrets" have to be drawn from a landscape camouflaged by sameness. And sometimes you have to be a bit knowledgeable to know at what you're looking. But the rewards of these little personal discoveries are many and may even warm the chill of the season.

WINTER birds continue to amaze me—more so each year. They make so much out of so little. Scratching out an existence from barren bark and bough, they seem to relish the harshness of the elements.

After watching a nuthatch probing in his typical fashion, spiraling down a trunk, I too circle around the same tree looking for some evidence of what might be "dinner." Nothing. At least not for me to find.

You might try the same thing with another winter resident like the downy woodpecker. This smaller cousin of the hairy woodpecker is a little bundle of black and white and is a regular to most woodlots. It flies about, landing here and there but settling only briefly at any one place. Try to find what one is eating.

Ask yourself these and some other simple questions about your routine observations. But don't always expect to come up with the answers, because casual observations are not enough to solve some of your questions. In the case of the downy or the nuthatch, boning up on some entomology may help. Then at least you might know what it is you are trying to find. Besides, checking references the evening after a walk reviews what you have seen and helps add to your outdoor lore.

One sign you're sure not to miss is the drilling of the pileated woodpecker. And, if you're lucky enough to see the maker of this 2x4-inch oval hole, you won't soon forget that either. It's not so difficult to imagine what he might find in such a cavity, as I'm sure the bark beetles that are scattered on my chopping block after



cutting firewood must also reward his woodcutting efforts.

Making nature interpretation more complicated is the fact that some of us have an eye for the exception to the rule—if we can apply any rules to the natural world. For instance, just yesterday I watched a nuthatch land at the base of a tree and, while searching for food, work in an upward spiraling fashion around the trunk. Any good bird guide will tell you he was feeding in an unacceptable fashion. But then individuals of a species sometimes show mannerisms that are nothing less than interesting.

And speaking of bird guides, beware of the color plates found between the covers. Most authors assume the bird in question is a male in direct sunlight, during spring or the mating season. An immature female in September may present a problem. But spotting one of those hard-to-identify birds will probably prove to be a good experience and may serve as an ego check for the know-it-allers.

Color, as I recall, was one of those identifying characteristics that used to frustrate many of my students who were trying to learn bird identification. Of course, some were females, and I don't know of any male/female combination that can agree on a color description. In any case, don't be too concerned with making your observations agree exactly with those of a

field guide. It can't be perfectly done.

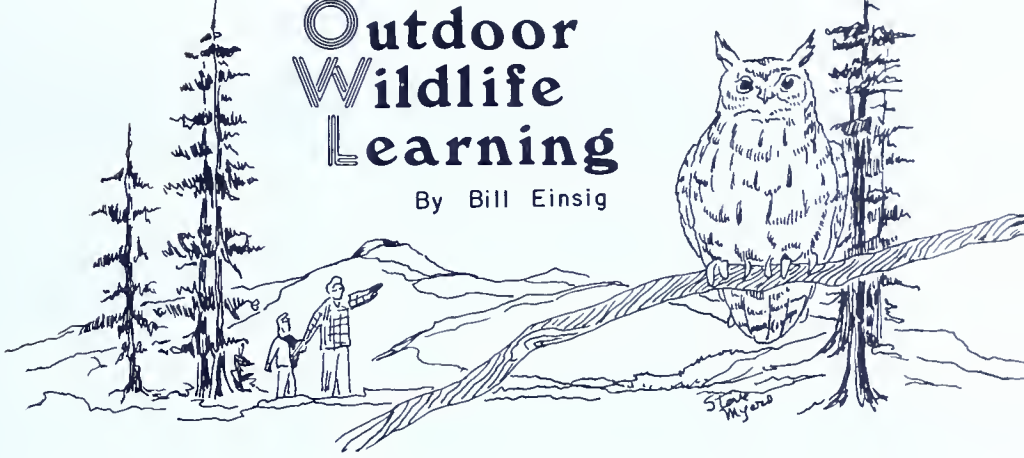
Despite all these irregularities, reading sign is not an impossible task. Use a lot of common sense and expect to make some mistakes. Knowing what you see will be very rewarding; there's a lot of pride and satisfaction in understanding what's going on in the woods. Things don't just happen. There are reasons why a hemlock seedling grows on a north facing slope, why a red squirrel is found near conifers, why you find a turkey near a winter seep, and why a horned owl hoots more vigorously on a moonlit October night than in April. (Remember though, there will be exceptions to these!)

And don't neglect nighttime winter skies, as they are some of the best. When it's clear and cold, stars seem to fill the zenith like no other time of the year. A good vantage point, free of artificial lights, will provide some sights worth remembering. And if you hit a meteor shower, you're in for an extra treat. I know the northern tier counties have staged some great shows for me. Both familiar and strange constellations will be there to challenge the observer. Go dressed for the occasion, as it may be cold and poorly clad onlookers will be in for a chill.

Yes, there's a lot to pry from a winter's woods. But one thing is just there, without a need for interpreting or observing—solitude. The stems and stumps, rocks and ridges set to a cold, gray sky are somehow warming to a mind saturated by human conveniences. Sidewalks and carpeting are luxuries that have softened feet and ankles, and leaf- and snow-covered rocks and roots add little unpredictable twists and turns to sharpen the alertness of even the casual walker. The tightened face, cold lungs, chills, gooseflesh, and winter's wildlife are all reasons for taking a February walk. One thing for sure, it will a lift for your week—don't let this season be another to slip by without getting out.

Outdoor Wildlife Learning

By Bill Einsig



Owl Pellet Analysis

Most owls swallow their prey whole, rather than tearing it into bite-size pieces as do other birds of prey. Undigested parts are regurgitated in a consolidated mass of hair, feathers, bones and insect chitin. Such pellets hold clues to the owl's behavior and environment—and also provide the basis for several very popular wildlife studies.

Pellets easily can be pulled apart after soaking in water for a few minutes. Recovered bones are clean and normally unbroken, so entire skeletons of small mammals can often be reconstructed with very little effort. Care should be taken in collecting the small vertebrae and teeth, which fit loosely in their sockets after the digestion of mouth tissues. These teeth and the skull are used for identification of the small mammals making up the owl's diet.

Lessons in comparative anatomy can be well illustrated by matching the bones of a small mammal to their counterparts in a human, cat or rabbit. A series of sketches or photographs can be made and kept as part of a permanent record. If pellets are collected from the same area over a period of time and accurate records of pellet contents kept, a seasonal change in the owl's diet should be apparent as the susceptibility of prey species varies throughout the year. In some areas, pellet analyses over many years

could reveal successional changes in small mammal populations. Such changes could indicate a change in hunting preference on the part of the owl or an actual shift in community makeup.

Barn owl pellets are perhaps the most convenient to use. Deserted barns, homes, and storage areas are favorite nesting sites and a careful search should turn up a number of the glossy black pellets. While size varies somewhat, the usual length is 2 - 3 inches with a 1 - 1.5-inch diameter; the amount of food eaten will determine the size of the pellet. Normally one pellet containing 1 - 4 skeletons is produced each day, but this may vary as a result of changes in the abundance of food and feeding behavior.

In wooded areas, look for the whitewash excrement splattered over the trunks, branches and ground mat — particularly under conifers. These signs could mark the roosting sites of a number of owls, including the barred, great horned, long- and short-eared, and screech owl. Many times such roosts are feeding stations within sight of a possible nest.

Outdoorsmen have a practical opportunity to help their local schools by collecting pellets or by locating roosting sites. Most teachers should welcome such advice from the outdoorsmen of the community because they represent a vast pool of knowledge and experience that, at least to the present time, has been little used. Sportsmen certainly have more

to offer the formal school program than monetary gifts and used magazines.

Start an all-out search for owl pellets today . . . and let me know how you make out!

Food and Cover

Often, **game** management is **habitat** management. In most ecosystems, animals (the consumers) depend on plants (the producers) for both food and cover as well. In many cases, the plant community determines what animals will or will not be successful in a given area. Therefore, any study of wildlife should deal with the plant community on which that wildlife depends.

An excellent publication along these lines is "Shrubs and Vines for Northeastern Wildlife," by John Gill and Bill Healy of the Northeastern Forest Experiment Station. This technical report is a highly readable compilation of facts on 100 species of plants. Each entry includes a paragraph or more on range, habitat, life history, uses, propagation and management of vegetation.

The selected plant species may not be the most familiar but they are common, locally abundant and of great value to wildlife. It's too easy to concentrate on the small herbaceous plants or larger trees at the expense of the intermediate-size shrubs which are often of greater importance to wildlife. Recognizing the value of these "woody weeds" is a giant step toward providing the kind of habitat wildlife requires; this report clarifies that value extremely well.

For information, write to the Northeastern Forest Experiment Station, 6816 Market Street, Upper Darby, Pa. 19082. Request USDA

Forest Service General Technical Report NE-9, "Shrubs and Vines for Northeastern Wildlife."

The Living Garden

"The Living Garden" is an environmental calendar for 1976 that includes a wealth of ideas and information for any home owner or gardener interested in limiting the use of pesticides—and at the same time attracting beneficial wildlife to lawn or garden. Month by month, the calendar lists common pests most likely to attack your plants and recommends controls that are ecologically safe and effective. In addition, numerous suggestions are made that should help you attract birds: construction of proper bird houses, location of feeding stations, and planting of trees and shrubs that provide winter food and cover. This is one calendar you will hesitate to throw away at the end of the year! Available from the Audubon Naturalist Society, 8940 Jones Mill Road, Washington, D.C. 20015. \$3.

Any Ideas ? ? ?

O.W.L. is interested in your response to this column and looks forward to reading about ideas and techniques that have proven successful for you. Regardless whether you are a teacher or hiker, a Scout leader or hunter, if you have a love for the outdoors and want to help teach our young people about nature and wildlife, share your ideas with O.W.L.

Material should be mailed to:
Bill Einsig
1912 Karyl Lane
York, Pa. 17404

When Is a Toad Not a Toad?

The horned toad is not a toad. It is a lizard. It does not lay eggs but gives birth to living young.

Poor February! Buffeted continually by windy trials of opinion: too cold! too gray! Save for matters of the heart and the coming of red birds, I fear poor February would be secretly removed from the calendar of time . . .

WOOD ON WOOD

By Susan M. Pajak

LIFTING the head off the stock of the shotgun is undoubtedly THE singular error committed unconsciously, or unknowingly, by shot-gunners when they miss the target despite the fact they say they thought they were right on.

Stop moving with the bird and they are aware, usually afterwards, that they have committed this particular error; if they have held too far over or under, behind or in front of the bird, and they are most likely aware of these errors also.

But let an "easy" target keep right on going after the shotshell has been fired off perfectly (so they say), and the shooter is apt to gape in astonishment, wondering how, or why, she missed it.

Plainly, she missed it because she lifted her head off the stock of the shotgun. So the obvious questions that now need answers are (1) why did she lift her head? and (2) how can she correct the problem?

As to why, my first opinion, and the opinion of many dedicated shot-gunners, is that she wanted to see if, or when, she hit the target. She wanted to see when she hit the target at the exact same moment she pulled the trigger and, of course, this just won't work.

A couple of other valid reasons include looking for, or trying to identify, the target; that is, she can't make out clearly the target itself so she lifts her head off the stock to either focus better or to determine its flight pattern—where it is going.

A "hole" in the shotshell pattern is another possible answer, though remote. That her gun might not fit



MILLIE HIGAREDA, of Bentleyville, preparing to call for her bird from 16 yards, knows she must keep her head on stock to hit.

properly is another possibility, and we might include a slow, or uncoordinated, puller during a round of trap practice.

This last reason will really cause you to bunch up your bananas if you

GIRLS, GUNS, & GAME...

are not aware of getting a slow pull every seventh or eighth bird.

There are probably another couple of lesser reasons for misses that I just can't recall right now, but the most likely one is that she lifted her head to see if she hit the target.

She truly expected to break the target **but** she anticipated the result before getting all the gears in motion.

And there is no need to actually look and see if the target is going to break when the shotshell is going some 800 mph and the target only 50 mph or so. Bear in mind that no game animal or bird goes faster than the shot charge.

So how can she correct the problem? Well, if she wants to she can tie her head onto the gun stock with some clothesline—as I and many others have been tempted to do on occasion.

Concentration is another answer. She should concentrate on breaking

the target and not be thinking about the laundry that ought to be done, a previous miss, or whatever. In competition shooting, for example, you have to concentrate to the point where you ignore everyone and everything, particularly shooting friends because they're out there to beat the pants off you, friendship or no. Concentrate completely on breaking the target—feathered, furred or clay—and you will. Have confidence in yourself. Be assertive.

Talking to yourself is the last suggestion offered. Keep telling yourself to keep the head down, keep the head down. When it comes to shotgunning, its got to be **wood on wood**, girls; get your cheek on the stock of the shotgun . . . and keep it there!

Thanks to the thousands of readers who voted for my column in the GN questionnaire of a few months back. To enjoy the out-of-doors; to enjoy the shooting sports and the fellowship of good friends, this is what I shall always wish for you and yours . . .

Cooking Tip: when preparing stuffing for game birds such as grouse, pheasants, et al, add one or two chopped up juicy apples, unpeeled, to the mixture. Place bird in heavy foil, pour a half cup or so of cooking wine over it. Seal tightly and roast as per your favorite recipe.

The Great Pretender

The mockingbird can imitate the songs of at least 32 other types of birds, and at times it even mimics noises made by machinery.

Why the Wild Goose Flies

The wild goose has about 12,000 muscles—10,000 of which control the action of its feathers.

Natal Sprinter

Antelope fawns, when only a day or two old, can run at speeds up to 25 miles per hour for short distances.

Now's the Time To Cut It For Next Season —

FIREWOOD

By Les Rountree

SINCE prehistoric man first discovered that fire could be put to good use, the gathering of wood for burning has been a significant occupation. Early colonists and land settling pioneers depended on wood as their sole source of heat. They didn't know that coal and petroleum could be gathered in such prodigious quantities. Wood was it. If the wood pile did not fill the woodshed and half of the backyard by the time Thanksgiving season rolled around, they'd get busy. Wood cutting and fussing around with the woodpiles took an enormous amount of time out of our ancestors' lives.

Some environmentalists are sorry it ever happened, but the discovery of coal, oil and gas deposits, and ways to get at them, were primary factors in the development of this nation. From a purely ecological standpoint, wood is a preferred form of energy. It can be cut, burned and then grown again on exactly the same piece of real estate. As foresters are quick to point out, it is a renewable resource. Oil and coal are not. Well, they are really, but it takes several million years to accomplish the process. A marketable tree for lumber and firewood can be grown in a mere 50 years or so.

In addition to serving a functional purpose, fire watching is a pleasant human diversion. Even when they were not cooking a slice of wooly mammoth steak, or whatever the hunters had brought to camp, I'm sure that early human beings spent much time simply watching the magic flames out of sheer fascination. They did not understand the process by which heat and light came from the supposedly inert log. While it can be explained scientifically, I'm not so sure



A CHAIN SAW can take the durdgerly out of cutting firewood. Rountree recommends a medium-size saw rather than the "baby" size if much cutting will be done.

that modern man understands it either. Some of our ancestors worshipped fire as a "god" and paid homage to it in many ways. Certain primitive tribes offered up part of their kill to the fire god and allowed the meat to be totally consumed by



WOOD-SPLITTING maul and a pair of steel wedges are standard equipment for the serious fireplace owner.

the flame. They didn't ever want to lose its friendship. It was their key to survival during the cold season. They had also learned to prefer cooked meat over raw, and besides, sitting and looking at the dancing flames was an entertaining experience. It still is for most of us.

The desire to own a home with a fireplace is obviously quite strong among home buyers. Houses with fireplaces command a much higher market price than dwellings without one. As soon as a home owner who has purchased a fireplace-less house can afford it, he has one installed or he buys a different house. It can be argued that burning a fire in an open-flued fireplace is not good economics. Oddly enough, it is the occasional fire builder who sees the difference on his heating bill. If a fire in a well-designed fireplace is kept burning most of the time, it will actually reduce heating bills . . . if the rest of the house can be individually regulated or shut off.

If, because of your geographic location or a physical infirmity, you are forced to buy your firewood, the cost can be astronomical. Not because the

wood is so expensive but because of delivery cost. Human labor costs far more today than the raw materials. If you own some property that contains some cuttable trees or downed logs, consider yourself fortunate. Knowing someone who owns some acreage can be just as good. In most cases, the mixed hard and softwood forest plots of Pennsylvania contain loads of trees that should be cut for firewood. At least 20 percent of the trees growing on any piece of property will never become marketable timber or esthetically handsome trees. Using them for firewood is the best policy, and some judicious thinning is good for most forests. If you don't know a little something about judging trees from a burning standpoint, or what constitutes good thinning, ask someone who does or check with your district forester. Real professionals enjoy being asked for their opinions.

On many state and national forest tracts, there will be times when the public is permitted to cut up downed tops and dead trees. Some thinning of live trees is also permitted on state and large private tracts after a commercial cut is made. Check the yellow pages of your phone directory for the nearest state forestry office. If there is a location nearby where you may cut firewood, they'll tell you about it.

Okay, you're going to cut some wood for the home fireplace and you've found a place to cut it. Which species are best? All wood will burn, but some varieties burn much better than others. By burning better, I mean the fire will last longer and turn out a more even heat. Some woods also produce a pleasant fragrance. A good-smelling fire is much preferred over a smoking mess that either sput-



ters and goes out or a blazing conflagration that flares brightly for a few minutes and then disappears. The ideal fire lasts a long time and crackles with a happy, dancing flame that eventually leads to lasting embers that are perfect for indoor (or outdoor) cooking.

The absolute perfect fire, in my opinion, is one made from a combination of apple, white oak and beech. If you can acquire those woods in equal proportions, you'll have the best of all possible fires. It will last a long time, emit a satisfying fragrance, cook meat without adding an unpleasant taste, and throw a good volume of heat. In spite of the fact that all wood burns, there is a terrific difference in the heat quotient. I am not sure that I know what that means so let's try it another way.

The people up at the Penn State Cooperative Extension Service spend a lot of time studying such things (thank goodness somebody does) and they came up with a list of firewoods and their heating values. Here is a ranking of common trees found in Pennsylvania. (Note — the number shows the relative ranking of firewood based on the heat value of a dry standard cord, white oak having a heat value rating of 100.)

Good

Osage orange	112
Dogwood	107
Hophornbeam (c)	101
Shagbark hickory	100
White oak	100
Black locust	98
Blue beech	96
Bitternut hickory	95
Sugar maple	95
Black oak	92
Bur oak	92
Beech (c)	91
Red oak	89
Yellow birch	86
Mulberry	85
Apple (f) (c)	84
Red elm	83
White ash	82



SWEDISH BUCKSAW is a fine tool for cutting up limbs and small trees for fireplace use. It is inexpensive, lightweight, and goes a long time between sharpenings.

Medium

American elm	80
Red maple	78
Eastern larch	78
Black cherry (f) (c)	77
White birch (c)	76
Black walnut	74
Black ash	74
Green ash	72
Silver maple	71
Sycamore	70
Red pine (f)	64
Black maple	63

Poor

Bigtooth aspen	60
Red spruce	60
Hemlock	59
Quaking aspen	58
Butternut	57
Yellow poplar	57
Basswood	56
White pine (c)	56
Cottonwood	55

The "f" and "c" behind some of the names mean that the wood in question either burns with a pleasant fragrance (f) or a colorful flame (c). These are, of course, esthetic qualities and may



"GREEN" firewood dries faster if stacked loosely so that air can circulate through it easily. Crisscross stacking is an easy way to speed process.

or may not be important to you. Apple, it will be noticed, has both attributes and a third one as well . . . that's cooking qualities. I am never one to ignore this feature. Apple wood-broiled hamburgers are something special and so are steaks broiled over hickory. For pure cooking, hickory is tough to beat because of its mouth watering aroma. Merely sniffing the heady, hickory smoke is bound to set taste buds in motion.

If ornamental firewood is an important consideration, white birch and aspen are favored. Unfortunately, neither of them is among the best fireplace woods. Dry white birch goes up in flame in an instant and aspen puts out too little heat to be worth cutting. *If nothing else is available*, it's not against any law to use the conifers for firewood, but when there is a choice they should be avoided. Pitch and tar inside the wood layers

snap and crack when burned and it is dangerous to use these woods in an open fireplace. If you don't have a screen, they should not be used. In addition to these problems, too much burning of pine and hemlock will cause a buildup of residue in the chimney that can cause back bursts and chimney fires.

The Perfect Time

Right now is the perfect time to cut firewood for next fall and winter. Green wood cut now will split perfectly and the summer of '76 will dry the wood nicely. Cut it in lengths your fireplace will handle and stack loosely in crisscross fashion. This will allow air to circulate around all sides of each stick and permit rain water to drip off quickly. Don't worry about allowing the wood to stand in the rain. It will dry out much better if left uncovered.

If you need the exercise or are in great physical shape and want to stay that way, the best thing to cut firewood with is an axe and buck saw. Chopping and sawing wood builds tremendous muscles and equally prodigious appetites. The expression "eat like a lumberjack" was not dreamed up by a press agent. Considering the American fascination with power tools, however, most firewood these days is hacked into shape with a gasoline-powered chain saw. There are a few electric saws around but they always frighten me. I used one for half a day and lived in mortal fear of sawing through the extension cord . . . I almost did too. Modern chain saws are rugged and efficient. If you burn a lot of wood, they will pay for themselves in one season.

If you are a beginning chain saw user, be sure to read the instructions carefully before making like Paul Bunyan. They are great labor savers but like all power tools, must be used with extra caution. Never start your saw in mid-air. Make sure it is resting securely on something solid before pulling the starter cord. Don't leave a running saw unattended and don't

handle it without wearing gloves. There are a lot more dos and don'ts connected with the use of chain saws, but all manufacturers include a book of instructions and a list of safety tips with each saw.

All of the quality chain saw manufacturers produce a "baby" size saw for light, home use. These are cute little things that are just dandy for trimming small trees and an occasional stick of firewood. They sell for around \$100. While they are good for what they were designed for, I can't recommend that any serious wood burner buy one. It's much more economical over the long haul to purchase one of the middle-size saws. You won't need one of the big, professional jobs that the every day tree feller uses, but you will need a saw that can sing through a 14- or 16-inch butt with some authority. A 14-inch bar is the shortest you should consider if you intend to cut more than a cord of firewood per year. If you constantly check the chain tension (just a little "slap" on the bar) and keep the chain oiled thoroughly, a chain saw from one of the well known makers will last for five years without a bit of maintenance other than an occasional sharpening.

For hand work, nothing beats the Swedish bow saws. I've used one of

these little fellows for years for small firewood and tree trimming, and it never seems to get dull. All hardware stores carry them.

When you end up with a stack of log sections of the proper length, you'll have to split them for portability and burnability. Small limbs up to five inches burn well, but anything larger than that should be split. The ideal tool for this is a 6-pound maul with a sledge on one end and a blade on the other. The Wood Chopper set put out by Woodings of Verona, Pa., is the perfect tool for this purpose.

For small chunks, one smack with the blade end of the maul and two split pieces are the immediate result. For larger pieces, you'll need to start a wedge and then give it a rap with the hammer end of the maul. The other wedge is necessary when you end up with a trapped wedge . . . and it will happen.

Enjoy your fireplace. Use it. But be sure to follow a few safety precautions. Don't use green wood. Make sure the damper is open before lighting. Use small twigs or special kindling for starting . . . never kerosene or gasoline. Never leave an open fireplace unattended, and be sure to close the damper *only* when you are positive the fire is out.

ALBERT MYERS delivers deed for 88 acres of land which now constitute State Game Land 288 in Lancaster County. Accepting for Game Commission is J. I. Sitlinger of the Division of Land Management. Pennsylvania hunters owe thanks to persons such as Mr. Myers.

*PGC Photo by
CIA Lowell Bittner*





BEN AVERY, VICE-CHAIRMAN OF THE National Rifle Association Archery and Bow hunting Committee, is scored as he takes the Bowhunter Education Course at Fort Rucker, Alabama.

For Better Bow Hunting . . .

Education Is The Answer

By Keith C. Schuyler

Photos from the Author

THIS WAS the so-called and over-worked "moment of truth." But there was plenty riding on the arrow as my eyes instinctively felt for the right hold on the outline of the deer about 30 yards away.

I was far from confident, because my old arrow rest had been giving me trouble. A new one purchased only days before to shoot the aluminum broadhead-tipped arrows with the Bear takedown wouldn't fit in the sight window. I had to stay with the one on the bow.

In practice the arrows had been drifting left. So now I had to com-

pensate. Then, release. The arrow flew well, still left, but a bit high. I shook my head disgustedly.

The instructor grinned. "That's okay, you caught the edge."

What he referred to was the "killing" area marked off on the paper deer target. It was my last shot at an unknown distance, "not to exceed 30 yards." The instructor gingerly fingered one of the other broadheads in my bow quiver.

"I guess you know what you're doing," he opined as we walked up to retrieve my last arrow.

Some time later he signed Part II

for "Field Competency Experience" including "Shooting Competency," of my National Field Archery Association Bowhunter Education Course. This not only certified me as an educated bow hunter, but it authorized me to conduct similar bowhunter education courses and to certify qualified instructors who pass the full course. In fact, if I want to retain this privilege, upon which I place considerable importance, the total requirements are:

1. Have an unquestionable record as a top quality sportsman in the eyes of his peers and meet the requirements of the Bowhunter Instructor's Creed which appears for his signature on his Instructor's Card.

2. Have hunted big game frequently for at least three years and have enough bowhunting experience to adequately fulfill the responsibilities of a certified bowhunting instructor.

3. Satisfactorily complete the Bowhunting Education Program's Instructor Application and Examination.

4. Satisfactorily participate in and complete the Bowhunter Education Course, Part I and IIA and B, including the shooting competency requirement. (Broadheads must be used.)

5. After being certified teach at least one and preferably more Bowhunting Education Courses in any one calendar year. If circumstances beyond his control prevent his holding at least one class during the year, reinstatement may be granted by the state Bowhunter Education Chairman for one year only, upon full written application.

6. Approval by Bowhunter Education Chairman of his state.

Unhappily, there is, at this writing, no Bowhunter Education Chairman of

Pennsylvania, as there has been no formal National Field Archery Association organization in this state since 1968. Nevertheless, since the previous account came from an experience in the state of Alabama in October of 1975, at which the national ramrod of the Bowhunter Education Program, Bill Wadsworth, New Brunswick, N.J., was present, everything is on the level.

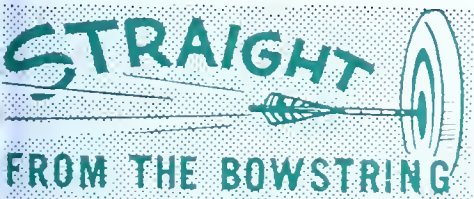
After this wordy introduction of a subject dear to my heart, a positive statement is in order. When National Field Archery Association was more or less bumped out of Pennsylvania in 1968, there were good reasons for it in the minds of those who engineered the event. NFAA, organized in 1939, was having growing pains. Nevertheless, what is presented here is not a pitch for re-acceptance of the national organization, for it is not necessary to be a member of the association to participate in the Bowhunter Education Program.

New Wing

There is a relatively new wing known as the NFAA Bowhunters. This carries a price tag of \$5 annually of which \$3 goes for the magazine, "Archery," and the balance into a bowhunting promotion fund. But, even this affiliation is not necessary to participation in the education program.

It should be noted at this point that the National Rifle Association of America is on record as approving the NFAA Bowhunter Education Program. That is where this writer came in.

Lt. Col. William Brophy (ret.), of Connecticut, chairman of the Archery and Bowhunting Committee of the NRA, called a meeting of the committee at Fort Rucker, Ala., coincident to the first Annual Rendezvous of NFAA. A feature of the rendezvous was presentation of the bowhunting education program. Ben Avery, Arizona, and I, as members of the committee, successfully took the course





AFTER SUCCESSFULLY completing the instructor's course, Ben Avery receives his certification card. The course is tough, requires serious application and advanced ability.

to gain a first-hand practical insight into the program.

Anyone who has even occasionally looked in on this column is aware of our continuing effort to beef up ethics and knowledge among bow hunters. In addition, there was a personal, and unsuccessful, endeavor to combine such a program with the target-oriented segment of organized archery. With something under 3000 members among primarily target-interested archers, and well over 200,000 licensed bow hunters, the imbalance in education is obvious.

Evidence of the hunger for something to equate to the need for information as well as the fellowship attendant to hunting with the bow and arrow, the Pennsylvania Bow Hunters acquired some 3000 members in its first year of existence. It was this writer's privilege to be invited to the formative meeting of this group as a charter life member and advisor to the organization. (Because of the editorial need to remain unencumbered by any allegiance, my name must necessarily be omitted from any organization office where a controversy might arise.)

Since nothing relative to archery is taken lightly in this quarter, I took seriously the obligation to "teach at least one and preferably more Bowhunting Education Courses in any one calendar year," incumbent upon anyone accepting certification in the NFAA Bowhunter Education Program. But, just to be on a safe track, I invited Bill Wadsworth to come into Pennsylvania after New Year's Day to direct the program for some of the top bow hunters in the state. This included such as Bruce Barber, president of Pennsylvania Professional Bowhunters Society (more about them in a later column), Rit Heller, holder of second place for top whitetails in Pennsylvania with the bow, John Hershey, one of the top bow hunters in the country, and others, each with some special attribute.

Why? Because the Bowhunter Education Program is one answer to what is needed and what is necessary to promote bow hunting as an integral part of outdoor sport, not only in Pennsylvania, but in the entire United States. As those who participate in the first such program in this state move out to spread the word and the knowledge, there should be a willing audience of bow hunters who are sincere in the desire to promote this ancient and honorable activity among others.

To avoid any thought that this is a duplication or infringement upon other programs, possibly a few words are in order to explain what the program is *not*.

It is *not* a hunter safety course, for this area is already well programmed by the Pennsylvania Game Commission. Nevertheless, there is supplemental attention to safety relative to the type and use of bowhunting



tackle. It is *not* a course of basic shooting instruction with the bow, as one requirement is at least three years of previous hunting with archery tackle. Target organizations are better equipped to teach fundamentals. But there is accent upon personal choice and limitations in tackle best designed to improve the already acquired skills.

Every serious and experienced bow hunter is quite aware of the need for more attention to personal ethics, personal sportsmanship, and personal association with other hunters. There is a need for improved awareness of the limitations and capabilities of modern archery tackle in the hands of newcomers as well as those who have been around for a while. There is a need for awareness of personal limitations and capabilities on an individual basis among the total bow-hunting fraternity.

Formalized Approach

To this end the Bowhunter Education Course is a formalized approach to each requirement. While it should be elementary for the truly experienced and dedicated bow hunter, he is the person who should be most interested in the program. Few of us are born instructors, and even fewer have the ability to organize an educational program. Anyway, anything that the individual might personally attempt could be suspect among his peers. It is better that such a program be developed by a state or national organization where the cumulative experience and expertise of many might be best utilized. In effect, this is what the NFAA education program is.

It should be mentioned that there have been some excellent seminars conducted around the state by such as Sherwood Schoch and others at a high level of information (see my January, 1975, column, "Public and Private Relations"). Only the future will determine acceptance of this program for bow hunters across the commonwealth.

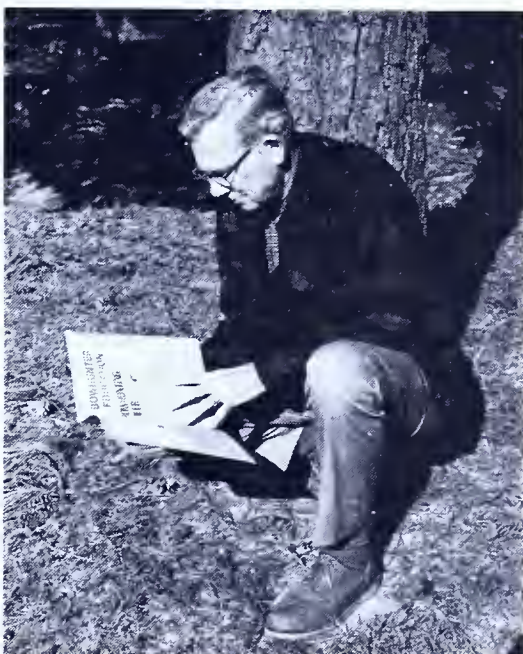
The NFAA program was two years

in the making by the NFAA Bow-hunting and Conservation Committee chaired by William H. Wadsworth. Bill, who is national director of the High Adventures program of the Boy Scouts of America as well as conservation chairman of the New York State affiliate of the NFAA, is eminently qualified for the job. He has for many years been an active bow hunter.

At first there was considerable resistance to the program from various archery organizations around the country. However, success of the initial effort has earned a complete change in attitude. The Pope and Young Club was so impressed with Bill's work that it awarded him the first P&Y conservation award at the annual meeting of the organization in Boulder Junction, Colo., in August, 1975.

Meanwhile, the program has received support from the Archery Manufacturer's Organization headed by Joseph Johnson. The organization voted \$3500 to provide kits for chairman and vice-chairman in each of the

WILLIAM H. WADSWORTH, national ramrod for the program, goes over material he and the committee of the NFAA developed for the Bowhunter Education Program.



states which adopt the program. American Archery Council, James Dougherty, president, has given strong approval to the program. Gordon Bentley, president of Archery Lane Operators Association, has indicated that all members will cooperate through the use of their lanes to further the program.

Although the NFAA officially approved the new program at Orlando, Fla., in national session only last February, the idea seemed to fulfill a need across the country. Already 21 states now have bowhunting chairmen. These top men are usually drawn from the ranks of NFAA, but this is not even a requirement. The program is for all bow hunters. In New York state, over 200 instructors were certified in 1975, and more than 1000 individuals completed the basic course. It is also moving fast in Nebraska and Texas.

Chairman

It is anticipated that a chairman will have been named for Pennsylvania by the time this is in print.

The six-hour course is broken down into four hours of classroom presentation and two hours in the field. Such subjects as obeying game laws, knowing companions, respecting landowners' rights, respect for wildlife, knowledge of hunting tackle, knowledge of one's own abilities are stressed. A written examination follows the oral presentation.

Part II, field competency experience, covers actual shooting demonstrations by the individual and evidence of knowledge about his equipment, the ability to sharpen broadheads, personal limitations and other pertinent information. Only the first part of the field competency experience is necessary to qualify in

the bow hunter education course. Those wishing to become instructors must satisfactorily complete requirements which demonstrate a personal competency with a hunting bow utilizing actual broadheads.

A deer target is set up with a 12-inch circle over the vital lung and heart area. Zones are pre-established in front of the target without visible markings starting at 10-15 yards, 15-20 yards, 20-25 yards and 25-30 yards.

At least 3 arrows out of 5 must be placed in the 12-inch circle at the varying distances up to 30 yards. If possible, elevated positions are also recommended. The only exception to the use of broadheads is in a metropolitan area where it might not be feasible.

No two arrows are released from the same position. The importance of taking shots at 30 yards, or less, is emphasized.

Although not mandatory, a booklet, "Bowhunting Deer," is made available at a cost of \$2. It is planned to revise and update both the course and the booklet from time to time based upon suggestions from the field. In addition, those completing the course may purchase camouflaged arm patches signifying their accomplishment.

Early in the year is a good time to start thinking about the fall bowhunting season. From what this writer has seen of the bow hunting education course, it most certainly fulfills a need across the country. It is especially appropriate to Pennsylvania which has about 20 percent of all the bow hunters in the United States.

This writer joins with some of the most knowledgeable archery people in the country in endorsing this formalized program that will upgrade bow hunting and bow hunters wherever they might be.

Doesn't Know Which to Do

The white-fronted goose is also known as the "laughing goose" due to its peculiar laugh-cry sound heard while in flight as well as on the ground or water.

The Handmade Rifle

By Don Lewis

Photos by Helen Lewis



DON LEWIS DISCUSSES BENCHREST barrels with Clyde Hart of Lafayette, N.Y., long recognized as one of the greatest barrel makers who ever lived.

I HAD NO intentions of being away from the fireplace and in my shop office a bitter cold February night a few years ago, but the phone caller explained that he needed some advice and it was the only time available for him. He insisted I could answer his many questions and had the knowledge to give him straight answers. I've always felt knowledge is useless unless it's used in some manner to benefit others, so I agreed. He arrived on time and brought two rifles in expensive-looking cases. I couldn't imagine what was on his mind and prepared myself for a long evening.

"I'm really glad you could see me tonight," he said. "The way I travel around the country, I never know when I'll be home. I follow you in

GAME NEWS, and you seem to lean a good bit toward rifles. Since I think you've handled and shot a good many, I want your advice."

"Your confidence is encouraging, but I'm a little in the dark over what you want to know. Somewhere in our phone conversation I remember hearing you wanted to build a topnotch varmint outfit."

"That's right," he answered, removing a Remington BDL from its case. "The problem is it's a little more complicated than that. I have a couple of varmint buddies who claim my factory creations don't come up to their handmade rifles, even though I have collected a number of chucks with my Remington 22-250 and Weatherby 240 Magnum."



TRIGGER ON MODERN bolt action is fully adjustable for weight of pull, creep and backlash. This helps make precision shooting possible.

"Gee, I can't understand their thinking. There aren't too many varmint hunters with top quality outfits such as yours. What do they claim is wrong with them? Do they condemn the cartridges or the rifles? For me to give you a straight answer, I'll need more light on the subject."

"It's a combination of both. They aren't fond of any factory cartridge, and they simply think a handmade rifle chambered for a wildcat cartridge will outdo any mass-produced job. I'm inclined to agree, since a handmade rifle has to be better all around. Don't you agree with that?"

"Not for a minute."

"You mean to say you've been testing and writing about guns for years and still think custom rifles aren't better or won't outshoot the factory rifle in the accuracy column?"

"To that, I'll give my strongest affirmation, but I would like to go one step farther. You're confusing craftsmanship with accuracy."

"Don't forget, I'm also talking about the wildcat cartridge that can't be bought at the local gun store."

"I'll get to that in due time. First, a misconception that dominates a lot of gun buffs' minds is that anything handmade is superior to what comes from an assembly line. Unfortunately, many handloaders entertain this same misconception. But a factory round is

very efficient and accurate, and few of us can turn out a better load."

"Are you still saying a handmade rifle isn't better?"

"No, I'm just saying it's incorrect to think the custom rifle is automatically better. For one thing, it depends on who does the work and what quality of material they use. Screwing a bargain-priced barrel into a used military action is not my idea of a high-quality barreled action."

"Isn't a factory product made along the same lines?"

"As far as assembly goes, yes, but every part has first been designed and tested by experts, and the end result is tested over and over until there's no question the rifle is strong and safe. Many custom rifles made by inexperienced gunsmiths aren't given this type of care."

"Are you suggesting I stay clear of all custom rifles? What does a shooter do when he wants to build a rifle that will outdo the conventional factory job? Somewhere you wrote about a 243-06, and a cartridge with a name like that would have to be more powerful than a regular 243 or the Weatherby 240 Magnum."

"I think you've missed my point. I'm not suggesting you stay away from the handmade rifle, and I've explained my reasons. Your thinking is incor-



EXCESS HEADSPACE can lead to a ruptured case, gas escaping under 50,000 psi, and results like this—not a pleasant prospect to consider or experience.

rect in regards to more power and better accuracy.”

While he was thinking over my answer, I dug out several Speer reloading manuals to get some data on his question on the 243 and Weatherby Magnum. I felt there wouldn't be any appreciable difference among the three cartridges in question. My own chronographing of the 243-06 didn't show it to be a super load. I intended to point out that the 243 is a 308 Winchester necked down to take the 243 bullet, and the 240 Weatherby Magnum runs along the lines of a belted 30-06 case.

“Here's some figures you may want to jot down. The 243-06 can push a 75-grain bullet at 3542 fps with 55 grains of 4831. The conventional 243 with the same weight bullet and 50 grains of 4831 hits 3414 fps. The 240 Weatherby Magnum eats up 56 grains of 4831 to shove the 75-grain slug just about 3500 fps. Those figures don't show a great difference or that the 243-06 has a definite edge in velocity.”

Far Behind?

“I thought the special cartridge would be several hundred feet per second faster, but I might just be picking the wrong one. I know my hunting pals claim their wildcats will leave a factory bullet far in the background.”

“Their thinking is way off base, and I'll guarantee you they have no chronograph reports to back up their claims. You're not going to find any cartridge outside of the 17 and 224 calibers that will offer you a lot more velocity. The custom hunting rifle is built more for design than to gain extra power, and if you do build a wildcat, make certain you understand all the problems in acquiring ammunition.”

Our conversation lasted late that night, and he left with a decision to build a wildcat outfit on a 30-06 case. To have a larger bullet than his buddies, he picked the 25 Niedner which is now the standard 25-06. I've won-



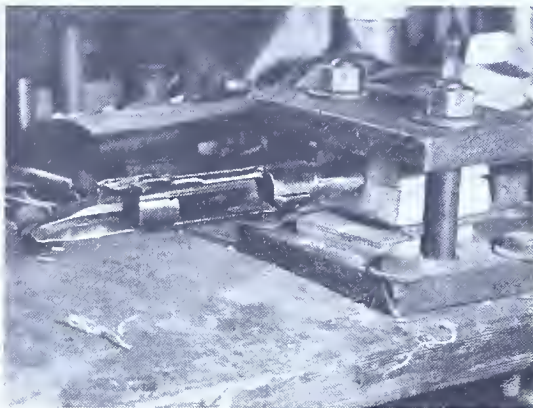
CHAMBERING REAMER, headspace gauges and tested micrometer are some of the tools needed to produce a “handmade” rifle. Top gunsmithing ability is also an absolute necessity.

dered many times what makes the special cartridge so attractive, since in most cases there is precious little to gain by switching to it.

When I began to hunt, any rifle was suitable. It didn't make a whit of difference what size, shape or caliber. If it would fire and was safe, it was carried. Times were tough and few hunters could afford to shoot a box of ammo for practice. Hopefully those days are over, and with extra money in the “New Rifle Fund,” building the custom outfit has come into vogue. This is fine, but it's not as easy as it sounds.

I've explained in previous columns how I once dreamed of building the greatest woodchuck rifle in Pennsylvania. If you remember that, you'll also remember it never came to pass. I finally realized that the factory rifle had more accuracy potential than I could get out of it. When I ran a sight-in range for many years, I learned that no hunter needs to worry about a lack of accuracy from the factory product. When a Model 70 338 Winchester Magnum puts five shots in a 2½-inch bullseye at 100 yards, there's no accuracy problem. I've shot plenty of Remington 760 pumps in a variety of calibers that didn't stretch a group to 2 inches at 100 yards. More than one Ithaca LSA

55 and 65 Model broke the 2-inch requirement I use to classify a big game rifle as "extra" accurate. I could go on with Remington 700s, Weatherby outfits, Savage bolt action jobs and the extremely accurate Ruger products, but it would just show what I've always claimed—that today's factory rifle is quite accurate.



HEAVY, WRENCH-TIGHTENED vise, shown here holding a Model 1903 Springfield, is used to remove receiver from barrel when new tube is wanted.

This doesn't mean the handmade rifle should be forgotten. But don't expect it to automatically produce super velocities or a higher degree of accuracy. While my visitor went for the wildcat 25-06, he could have had more power in Winchester's 284, which had just made its appearance. Like most of us, he was impressed with the idea that he had something different and perhaps entertained secret ideas about more power and speed.

I'm not sure how the "custom" idea caught the fancy of so many hunters, but I know from my own experience that the prospective buyer is not always aware of the hidden pitfalls. A belief exists that a used military action is a sure sign of a strong rifle. The old Mauser action retains as much popularity today as it did when GIs were bringing 8mms home by the thousands. I don't know how many Mauser, Enfield and Springfield actions I've drilled and tapped; and while each is a durable piece of

equipment, it doesn't have "double the strength of a factory action." I have several big game and varmint outfits built on used military actions, and I don't feel any safer with them than I do with a Winchester, Savage, Remington or any of the rest.

If the barrel is of high quality and the action strong, there is still much to be done. This is especially true if chambering is a part of the job. Using a chambering reamer is not a job for the novice, not when 50,000 pounds per square inch of pressure are going to build up just a few inches from the shooter's face. Setting the headspace requires intricate knowledge in the use of the "go" and "no go" gauges. I have never believed a slight tolerance in headspacing will create all the problems attributed to it as far as accuracy goes, but it's still an important safety step in the gun building process and has to be done properly.

Sticking with my strong feelings about getting competent workmanship recalls to mind the following incident. While in the middle of a heavy sight-in schedule, a rifle landed on my benchrest that had the unmistakable signs of a homemade outfit. The owner had just purchased the rifle along with a cigar box full of 270 Winchester shells. When a shell wouldn't chamber, I assumed it was a reload that hadn't been completely resized. Trying several more brought no better results, and I switched to new ammo. Here again, the bolt handle wouldn't close.

No Success

To make a long story short, I ran the gamut of conventional big game cartridges without success. Neither the barrel nor the action bore the stamp of any caliber, and with time a factor, I couldn't make a plug to determine what was wrong. Apparently the rifle had been improperly chambered, but I couldn't imagine how it ever got on the market.

I'm convinced that this is a remote incident, but on the other hand, I've encountered a number of handmade

creations that left a lot to be desired. This is not meant to be a reflection on the hundreds of fine gun builders in the Keystone state and across the nation who understand every aspect of gun making. It should, however, make every gun buyer aware that there are pitfalls of some magnitude in the handmade rifle.

The custom outfit should reflect more than just a tongue-twisting caliber or cartridge name. It should meet certain individual specifications for its owner. I have an acquaintance who had a big game rifle built with a special size and length of barrel in the 30-06 chambering. Maybe it was going too far with a personal whim, but it met his needs, or so he thought. A varmint hunter may want a 30-inch barrel with a specific taper or a laminated stock or one with a thumb-hole to fit his hand. I saw a 270 Winchester built on an Enfield action with a short, heavy barrel. This is what the owner wanted, even though most hunters would want a lighter barrel.

I can't give all the reasons why a hunter or shooter will pay extra dollars for a special outfit, but I'm sure that in most cases the money is well spent. I have to caution against taking that route without first having practical reasons. The 243-06 sounded impressive to my visitor, but ballistics proved it offered nothing a factory cartridge wasn't capable of.

Probably benchrest and target shooters constitute the largest group of users of custom built rifles, and they do use some rather high sounding cartridges. Take, for instance, the 7mm-300 Weatherby that whips out a 168-gr. Sierra slug at 3240 fps, or the 6.5-300 Weatherby that gets a 139-gr. Norma bullet up to 3267 fps. These are not outfits normally carried by the

hunter. Most are sleeved actions requiring an enormous amount of special work and machining, but they perform well even up to 1000 yards.

My reason for writing this is not to condemn or condone the handmade or custom rifle. I'm only trying to clear up some of the myths about the power and super accuracy these outfits are supposed to offer. For all practical purposes, the varmint or big game hunter gains nothing; the custom outfit for a wildcat chambering can actually cause headaches in obtaining ammo.

Some Fun

On the other hand, I want to be fair and tell of some of the fun in modifying a case. I have a 219 Donaldson Wasp that will fire less-than-an-inch groups any day of the week. The Wasp case came originally from a shortened, re-necked 219 Zipper that required some blowing out. When the Zipper case left the market, I turned to the 30-30, and with the help of RCBS and a Forster power trimmer that fits my drill press, I can turn out a box of Wasps in less than a half-hour. A three-piece swaging die set along with regular reloading dies aren't exactly cheap, but all in all, I figure it's worth it.

Believe me, the custom outfit is not money down the drain when the owner has a specific need or just wants to own a beautiful handmade rifle. Don't expect miracles, and bear in mind that the cost will usually be far greater. There's nothing nicer than a custom rifle built to one's own specifications, but let that be the total reason. I'm all for the custom rifle, but a varmint shooter or big game hunter is not improperly equipped nor is he underpowered just because his rifle came from an assembly line.

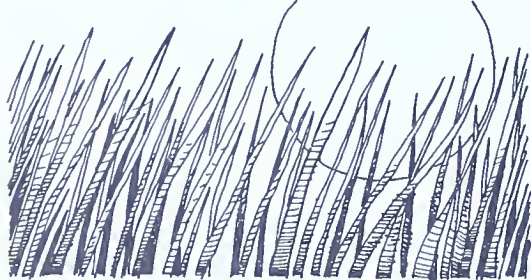
Hollow Hair Floats

The tubular construction of the hair on all species of deer enables them to keep warm during the winter, resisting sleet and snow, and helps them to float well while swimming.

In the wind

chuck fergus

information writer



Despite a 1972 law designed to protect porpoises, many of these mammals are killed in the nets of commercial tuna fishermen. The death toll was higher in 1975 than in 1974, up about 40,000, a 35 percent increase.

Resource usage figures from the National Wildlife Federation: water consumption in the U.S. doubled between 1950 and 1975 and will double again by the year 2000—not because of population growth, but to meet new demand from minerals and manufacturing industries; from 1960 to 1970, 2000 acres of rural land were converted to urban use every day, thus removed from agricultural production; and in 1950, the U.S. consumed two billion tons of new materials and minerals (about 26,000 pounds per citizen) while by 1972, consumption was up more than 50 percent, to four billion tons—40,000 pounds per capita.

A large-scale recycling plant designed to profitably convert trash into fuel oil is under construction at El Cajon, Cal. The plant, a joint EPA and private industry venture, is expected daily to convert 35 truckloads of waste into 200 barrels of liquid fuel and 25 tons of usable glass and material per day.

Oil shale is the largest supply of fossil hydrocarbons. This source is estimated to contain 1000 times the reserves of coal beds. Oil content in shale is low, however, ranging from 0-2 barrels per ton.

Research by the U.S. Fish and Wildlife Service indicates that fish-eating birds such as herons accumulate a variety of environmental pollutants and may be particularly sensitive to habitat alteration. By studying the distribution of wading bird colonies, population trends, reproductive success and eggshell thickness, scientists think they can use these birds as biological indicators to measure the impact of pollution and other habitat changes.

A court has halted further construction on the Pan American Highway until environmental impact statements on the project are complete. Conservation groups filed suit to stop further construction after learning from wildlife and livestock disease experts that the road would increase greatly the chance of introducing foot and mouth disease into North America. The portion of the highway being contested is a 250-mile segment in the jungles of Panama and Columbia which would connect the North and South American Continents.

Progress has been made toward developing a biological control agent for mosquitoes. The Agricultural Research Service has reported good success controlling certain types of mosquitoes by infecting their habitat with parasites. The parasite is a worm that attacks some 60 species of mosquito, including those that carry the encephalitis virus. The worm occurs naturally in the wild but its distribution has been spotty.

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DEER & BEAR MEASURING DATE

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10 a.m. to 5 p.m.

April 4: Dallas,
10 a.m. to 5 p.m.

April 4: Jersey Shore,
10 a.m. to 4 p.m.

April 4: Huntingdon,
10 a.m. to 4 p.m.

May 2: Ligonier,
10 a.m. to 4 p.m.

March 28: Reading,
10 a.m. to 5 p.m.



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CARVING BY RANDY ROWE

What you have here, folks and duck hunters, is a photograph of a carving holding a carving, painstakingly crafted by Randy Rowe. It's perfect for this month, as March is in the "off season," a time when hunters turn to other pursuits. Those few with the required skills take up knife, rasp and paint and fashion wooden decoys designed to lure next autumn's waterfowl into shooting range. Decoy-carving is an integral part of the American waterfowling tradition, adding flavor and a breath of the past to an old, revered sport.

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NASCAP Needs You!

THERE WAS QUITE A response to our January editorial, "The Biggest Buck." Most of you will recall that it dealt with the formation of a new organization, Hunters Legal Defense Fund, whose goal is to oppose—in court—the anti-hunting groups which have proliferated throughout this country in recent years. Several letters from Bob Holleron, executive director of HLDF, indicate that thousands of you have responded to our request for contributions . . . "an overwhelming response many times greater than resulted from an editorial in *Field & Stream*," according to Fred Maly's outdoor column in the January 18 *San Antonio Light*. That doesn't surprise us—we knew that Pennsylvania hunters would come through—but nevertheless we do appreciate it. Those who missed the earlier editorial and now wish to contribute a buck or more may send it to the HLDF at Petroleum Center, D-211, San Antonio, Texas 78209.

Many of you wrote me to say you were contributing to HDLF but wanted to know if there were any Pennsylvania organizations involved in similar work which you could support. There is at least one—NASCAP, the National Society for Conservation and Animal Protection. NASCAP has been in existence for several years, and we have mentioned it before on this page. Located in Bethlehem, Pa., NASCAP has been in the thick of several court battles with anti-hunters, and its efforts have been instrumental on several occasions in preserving hunters' rights. Most notable among these was the Basking Ridge fight, better known as the Great Swamp deer hunt case. This took place in New Jersey, where DEER, Inc. an anti-hunting organization, last year attempted to again have a controlled deer hunt closed, as it had been in several previous years. The hunt was desired by the New Jersey Fish & Game Department, as the area was badly overbrowsed and deer were starving. The efforts of NASCAP and the U.S. Department of the Interior resulted in a pro-hunting decision from the court, and NASCAP later blocked an appeal in the Appellate court in Philadelphia. NASCAP also was deeply involved in fighting down the efforts of numerous anti-hunting groups to stop the hunting of snow geese, Atlantic brant, merganser and goldeneye ducks in the Atlantic Flyway last season. Currently NASCAP is involved in other cases, representing the viewpoint of legitimate sportsmen everywhere.

Organized by Dr. Walter "Lew" Batt, NASCAP's goals have been to found an action organization of true conservationists and sportsmen who will give a strong unified voice to conservationists' viewpoints, use the courts to fight the "amateur protectionists and Friends of Animals" groups, keep the public informed on legislation affecting conservation, and make the membership's views known to the Legislature.

NASCAP has had considerable success in reaching these goals, but such fights, which benefit all sportsmen, are time- and money-consuming. Your support is needed. Membership fee is \$10 for the first year, \$5 in successive years. However, it is not necessary to become a member in order to contribute. Any amount you can send will be helpful and appreciated. The address is NASCAP, PO Box 3129, Bethlehem, Pa. 18017.—*Bob Bell*.



RON ANDREWS

THE WOODS road, long unused except as a footpath and game trail, angles up Turner Ridge and then turns sharply north along the crest toward the Point. Here a few acres of mature hardwood shoulder into the sky, standing high above the surrounding second growth. In the light of the afterglow I turn aside where the deer trail passes

The afterglow fades and the woods becomes alive. Between the interwoven oak branches, clothed as yet with only faint suggestions of foliage that will soon shut out the sky, flying squirrels begin to trace a maze of flight patterns. Elfin twitterings and the faint raking of claws on bark mark their play. I catch brief glimpses of elusive

going-Going-GONE ???

By Al Shimmel

by the largest oak. I find a seat between its buttressed roots. This area has been my hunting ground by day and night for more than half a century. I touch the rough oak bark as one would take the hand of a friend and am content.

A short way down the slope a spring flows from a cavern formed by the roots of a sugar maple. From my position I define a dark opening above one of its upper limbs. This is the entrance to a snug den deep within the trunk.

Across the cove and on a level with the spring, a cellar hole and crumbling barn foundation, lost in a jungle of blackberry briars and tangle of fox grape vines, are all that remain of the Dimeling farm, where I often visited as a boy. A short way down the hollow a rough rectangle of stone, almost hidden in the moss, marks the site of the Laurel Run School, where farm children long ago received a meager but practical education.

Perhaps it is a deep-buried migration urge or a nostalgic memory that each year prompts my return to this lonely hill. Maybe it is a hope to capture once again some small adventure that was mine.

I settle myself comfortably against the oak and hunch deeper into my jacket. Its wool feels comfortable in the cool spring dusk. Tranquility is here disturbed only by the drone and flashing lights of distant aircraft and the far-off noise of traffic on the valley highway far below. Distance mutes these disturbances; they drift into insignificance.

shadows and marvel at their speed and agility.

The top of the maple by the spring is on a level with my eye. In the dusk I glimpse a mature raccoon emerging from the den where it has hidden during the day. It moves out on a limb and settles down to observe its surroundings. Something about the animal leads me to believe it is a female, perhaps with young. For a quarter of an hour it remains motionless, then descends slowly to be lost in the shadows. I mark its progress by the stilling of the spring peepers which had been calling from the swampy pockets and miniature pools. After the raccoon has passed, they resume their pipings.

Few except naturalists know that the spring peeper (*hyla crucifer*) has the ability to alter its color to match its surroundings. While limited, these transformations range through the neutral colors from palest straw through browns to coal black. Young people are fascinated by these changes. During my teaching years it was a routine experiment each spring to capture a number of these tiny amphibians and confine them against different colored backgrounds. When these miniature acrobats had completed their color changes they were placed together. The contrasts never ceased to amaze youngsters. After the experiment was completed the peepers were returned to their habitat.

A marsh, located near a small city, has been partly drained and filled.

Mosquito fogging operations are practiced during the spring and summer. Where peepers set up an almost deafening chorus in years gone by, now only an occasional voice is heard.

In the remote woodland pools they still congregate in the ritual of spring. By the time the pools and puddles have shrunk to summer size the eggs have hatched and the tadpoles have changed to tiny replicas of their parents. They seek the solitude of the damp woods and call occasionally when the rain sends water dripping from the leaves.

Climbed the Hill to Hear

Suddenly from a mound of earth, elevated from the forest floor, comes a sound that I have climbed the hill to hear. Memories come flooding back linked to the cry. "Whip-poor-will (chuck). Whip-poor-will (chuck)." The "chuck" syllable of the call is so soft that it may pass unnoticed unless the listener is quite close to the bird. Minutes pass and then a second bird, farther back on the hill, challenges with his call.

A few years ago the call of the whip-poorwill was a familiar sound, not only in the mountains but also in the wooded parks and groves at the very edge of the cities. Suddenly they were rare. Only far back in the woods can they be heard. Only rarely now do headlights pick up the ruby reflections of their eyes or the white flash of the throat crescent and the outer tail feathers as they take flight.

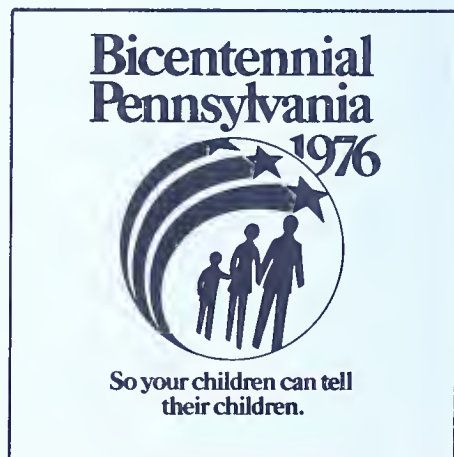
I remember a spring when the family stayed in a cabin far back in the deep woods. Every evening the clearing around the cabin became a concert stage. As many as a dozen birds performed, apparently in competition with each other. The choice perch was the ash pile not far from the back porch. The boys strained their eyes to see the outline of the birds as they called and were delighted when a flying silhouette was glimpsed against the background of the sky. Adults in the party were not so enthusiastic. They listened to these plaintive calls with scant appreciation. As they continued through the night, sleeping for some was impossible.

I looked at my watch. The luminous hands pointed to a quarter till midnight. I rose stiffly and made my way down the ridge to the waiting car. I paused to listen again. Far back on the heights the concert continued. Spring had truly come to the hills!

The wide marsh that borders one arm of the lake has its acres of sedge, cattails and high blueberry bushes. Here you can find mats of cranberry surmounting the sphagnum tussocks. In the spring the drooping white-to-pinkish blossoms hold up their white petal petticoats. In late summer, about Labor Day, the berries dot the sphagnum tussocks until they remind one of miniature Christmas trees decorated with red ornaments.

A pair of red-tailed hawks nested in the big oak that grew on a highland between two arms of the lake. A pair of marsh hawks claimed a high tussock screened by the sedges. Here they held their domains against invaders. Near each of the sand springs that poured cold water into the upper marsh were thriving colonies of pitcher plants, purple fringed orchids, cotton grass and ladies tresses. In one spot a colony of pink moccasin flowers lifted a dozen or more blooms per square yard. Under the balsams at the edge of the lake was a scattering of twayblade orchids, each lifting a spike of white-green flowers. Each individual blossom resembled the tiny face of a bearded elf.

The logging road that followed the edge of the swamp had been abandoned when the last of the giant



...pines was cut and rafted down the river. The area returned to its natural state, although the second-growth trees had not attained the diameter of their predecessors. Then it happened. A developer saw the opportunity to turn a fast profit. When I next saw the area, the road was improved. On the private land just beyond the marsh, lots were leased at fancy prices. A trailer court mushroomed into being. Cottages were built. The once quiet area hummed in the summer with motor bikes and all-terrain vehicles.

Someone decided to "improve the springs." Oil drums minus the heads were sunk into the white sand, their rusting rims extending about a foot above the water. Pitcher plants, sun dew, fringed orchids and water cress vanished. Although the cranberries were barely beginning to color, the hummocks were stripped and the area littered with paper cups and beverage cans.

One Last Visit

The following spring I made one last visit. The marsh hawks no longer occupied their favorite high spot or quartered above the waving grass in search of rodents. The moccasin flowers struggled hopelessly to survive the flower gatherers. I found only a few hidden blooms where once there had been hundreds. There was evidence of fresh digging where the plants had bloomed luxuriously. The plants had been transplanted to die in unsuitable soil.

The trailer community showed a "healthy" growth. The road had been further improved. The flow of traffic would have done justice to a large community. At night the sounds of moving vehicles and the beat of "rock music" blared from high volume speakers to drown the normal sounds of the swamp.

The berry fields were trampled and dotted with litter. At evening, a Jeep with an insect fogger made its rounds. The tree swallows and purple martins were gone.

The March twilight in South Carolina has all the balmy mildness of a May evening in the Pennsylvania hills. I



A PAIR of red-tailed hawks nested in the big oak tree that grew on a highland between two arms of the lake and hunted in the area.

walked the sand road through a forest preserve a few miles from the city of Columbia. All around the straight columns of the southern pines lifted their crowns toward the sky. Rounding a bend, I came upon a management area where the timber had been clean cut, then replanted. The trees were from six to ten feet high, each with a lead spire extending above the last whorl of branches. I stopped short. Surely my ears were playing me false. They registered the soft notes of bluebirds. There was not one bird but scores, each perched on its own pine top. I sat down on a convenient log. The concert was most enjoyable. The afterglow faded and darkness made it imperative that I move on. Reluctantly, I arose and continued to follow the road. Even after I left the plantation and once more entered the stand of mature pines, the notes came softly. The experience was so rare as to leave a lasting impression.

Three months later and 800 miles farther north, I entered Tamarack Swamp. I hoped to photograph pitcher plants, water arum and a rare species of wild orchid. As I broke through the dense wall of protecting alders, I stopped short. Again I heard the soft notes of a bluebird. My eyes found him



YOUTHFUL friends, whom I'd known quite a few years, parked their bikes on the front lawn and hurried to see the subject of my photography.

perched on the tip of a dead tamarack that was surrounded by a sphagnum bog. While the male sat silhouetted against the sky, a flash of blue drew my gaze. It was the female. She paused before entering a deserted woodpecker hole. During the morning I discovered three more nests. The birds had retreated to this quiet solitude where competition for nesting sites was minimal.

A few days before the expedition to Tamarack Swamp, I had made my rounds of half a dozen birdhouses erected the previous winter in hope of persuading some migrants to take up residence. They had been erected with the entrances about five feet above the ground (starlings will seldom nest so low). Five of the six houses were occupied, but I was disappointed. Three had been claimed by tree swallows, one each by a house wren and a chickadee. Still, hope springs eternal; perhaps another year the bluebirds will be there.

A rural friend placed suitable houses on the posts of his pasture fence. Last year he had three pairs of bluebirds for tenants. Two of them remained to raise second broods.

One morning last spring as I sat near the study window, I was agreeably surprised to hear a bluebird's song. It seemed to come from the big white oak by the brook which flows beyond the garden. I left my work and went out to welcome the visitor. Sitting on the topmost oak branch was a starling. Yes, my binoculars confirmed it. The imitation was so perfect I could scarcely believe it. I suspect that this bird had been fledged in a locality where bluebirds were in residence and had learned by imitation the notes that would have puzzled an expert. I turned away in disappointment. My ears had been deceived by a common imitation of the real thing.

My youthful friends peered over my shoulder. Questions spilled in an unanswered tangle. The *Cecropia* moth that had just emerged from its silken shroud resembled nothing so much as a dull blob of wet paper. The half dozen boys, out for a bike ride, had seen the camera set up by the stone garden bench. With the freedom of long acquaintance, they parked their bikes on the front lawn and hurried to see the subject of my photography. Even as they watched, the tiny wings began to unfold and expand. In less than an hour the moth was fully developed, revealing all its glory. With the help of my manuals and the colored pictures they contained, the boys' questions were answered and they departed. I could see in their expressions the wonder of the miracle they had just witnessed.

Two Years in Making

The cocoon from which the moth emerged was one of three that had been discovered at the cost of many hours of diligent search. The pictures I had taken allowed me to complete a series that had been two years in the making. *Cecropia*, *Luna*, *Promethia* and *Polyphemus* cocoons and moths were once quite common but now are so rare that finding either the adult moth or its cocoon is an event. In years past it was possible to collect a dozen or more by walking a swamp road and examining the sprout growth along its edges. Since controlled spraying of the area is practiced, high school biology

classes have resorted to purchasing specimens from biological supply houses.

Do we have a need to readjust our sense of values? What price can we place on the sight of a bluebird or the peaceful sound of its call, when they are no more? When the last whippoorwill comes no more, will it be missed? How can we explain to those who have not heard it, the mood it conjured up? Something will be gone from the peace of mind that comes when the afterglow spreads its luminous light that closes out the day. What heritage shall we pass to those who follow us, who never will see the transformation miracle when a moth dragging its damp train emerges from its shroud of silk, to grow before our eyes into a symphony of color and design?

I held a nine-year-old on my shoulder as she hand fed a wild flying squirrel. "Eyeball to eyeball" was the way she described the experience.

Two youngsters in their early teens were with me the day we came upon a yellow timber rattler sunning by a rock. They were fascinated by the sound of its rattle and the design of its markings. When I asked them to decide its fate they summed it up this way, "It did us no harm, let it live." Perhaps there are

new voices crying in the wilderness.

Many species classed as game have prospered under the wise management of the sportsman-conservationist. Would it not be wise to extend such management to other threatened forms of life?

We live in a world of speed and confusion. Noise is all around. Where can we find a quiet place where we may hear the wind whisper in the branches of tall pines? Where can we lose our weariness by walking quietly on a carpet of fragrant needles? Where can we find a high far hill which we can climb and watch the rising moon and see a skein of geese print silhouettes upon its face? How shall we answer their call? Sometimes we need to walk a wooded trail made luminous by the Harvest moon to hear the creatures of the night make rustlings in the fallen leaves. Not only is this a need of ours, but it will also be the need of those who follow us.

I sought a favored spot where many wildflowers bloom. A spot of red attracted my eye. Someone had flung away a beverage can, a well-advertised brand, and it had come to rest against the stem of a moccasin flower. I have that picture both in mind and on film. Is it prophetic?

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GOOD HUNTIN' is where you find it, and for cottontails that will probably be the thickest thicket, blowdown or briar tangle you can locate!

Huntin' the Thickest Thickets!

By Nick Sisley

IT WAS A cold, still, sunny morning. Two hours of driving had put us into what I hoped was a cottontail hotspot, the flat country of southern Crawford County. Snow crunched underfoot as we opened the dog box and Matt Schultz's two anxious beagles poured out.

The small strip of cover I had in mind was big enough for only a short hunt. I had plowed through it a week previously, but at that time I was using my bird dogs and was after grouse. The supply of Old Thunderwings was sparse, but innumerable cottontail tracks criss-crossed the snow and several brown forms scurried ahead of me as I forged my way through this especially thick patch of cover.

Cottontails got me started hunting as a youngster, and beagles were the

first dogs I ever knew, but I hadn't heard hounds howl on a rabbit track for a year or so. I don't maintain rabbit dogs these days, but every season I like to get back at least once to this most enjoyable form of hunting. Travels to surrounding states and an extra good season on woodcock had kept me busy last year, so it wasn't until the "second season" that I found time to join Matt and his dandy cottontail hounds.

"Where ya' wanna start?" Matt asked, as he stuffed three shells into his pump gun.

I broke my double, checked that the tubes were clear, and indicated the direction we should take with a quick thrust of my barrels. Then I pulled two reloads from my pocket, chambered them, snapped Old Betsy shut, and we encouraged the dogs.

This particular bunny patch offered low as well as thick cover, an interwoven conglomeration of wild spirea, alders, and silky dogwood. It bordered both sides of a twisting creek which was a couple of feet too wide to jump across. We hadn't forced our way through the brush for 10 feet before Matt commented about how many cottontail tracks meandered across the snow. Experienced rabbit hunters realize that one rabbit makes plenty of tracks, but the tracks we saw in that small cover were so plentiful that the snow was "packed down."

Scent in Snow

Matt didn't know how well his beagles would be able to handle rabbit scent in the snow. Most of his previous hunting had been done during November seasons and on bare ground. Under those circumstances his hounds were topnotch. We tramped that cover for about 15 minutes before a cottontail scampered out when I kicked a blowdown. It was a challenging shot in thick cover, the bunny going full tilt. Guess I got lucky, for I rolled him on the first shot. I called the hounds. They came rushing over, shoved their noses into the scent-filled spot where the rabbit had been sitting, then raised their heads high, yowling with all their might. It was only a 30-foot run, but they appeared to have a little trouble figuring out the scent trail in the snow. The retriever in this hound duo, Patty, proudly picked the bunny up and pranced back to me with the prize catch.

"Well, now we got 'em started, Matt," I commented. "Maybe that shot and the hounds barking will get the bunnies in this little pocket all stirred up."

"Maybe they're holed, too," Matt retorted.

It did appear, as the morning went on, that the critters were underground, for we saw countless tracks but got no more bunnies up and running. Any ardent cottontail chaser realizes that this game animal forages



PAUL HOLLOBAUGH supplied the beagle power for one of Sisley's cottontail hunts. Here, he hefts a trio of bunnies.

a lot in the cover of night, and sometimes seeks refuge in groundhog holes after sun up. On many days only a small percentage stays above ground. On such occasions it is the job of the hunters and beagles to diligently search them out and be satisfied with a little less action. In my experience it's best to seek out areas where the ground cover is especially thick if you want to increase your success in finding second-season cottontails.

Food is seldom a problem for rabbits, except in deep or crusted snow. They subsist on such a wide variety of vegetable matter that food is available almost everywhere. Cover is the key. Thick cover! That's what the gunner must look for. This is especially true during our after-Christmas season. By then, winds and snows have beat down most of their other hiding spots. Whenever Matt and I swung away from the stream that morning, and thus away from the heavy cover, we immediately ran out of rabbit tracks. We saw several woodchuck holes, and fresh tracks went into each of them, sometimes several sets.



BEAGLES are interested in the morning's bag. Matt Schultz found that his hounds were able to handle rabbit scent despite the snow.

It was late in the morning before Matt and I got the idea to hunt close to the creek bank.

"Many a day I've flushed rabbits that have been hiding up under a cutbank along a creek," Matt reported.

But because it was so thick, it was difficult to work in close to the stream. The creek was too deep to walk in, and in only a few places could we hang on to a limb with one hand and get a foot down over the bank to root around in likely places. But we got lucky, for a cottontail scurried out of the second cutbank spot that Matt probed. He missed with his first shot, and I saw the snow spew up behind the dashing rabbit's hind legs. He was swinging around from my left to my right, and I was just swinging my light double into action when Matt's pump resounded a second time. The quarry piled up against the base

of an alder. The dogs charged over at the sound of the shooting, harked along the short trail, and Patty picked up the bunny and brought it back to her master.

We crossed the road where the stream ran through a big culvert, then hunted downstream on the north side. Again we found an abundance of cottontail tracks and thick cover, but there was a lack of action. Two hundred yards downstream from the road we crossed on a fallen log and hunted back up the south side. It wasn't as thick there. Tracks petered out. When we got back to the road, the noon hour was already past and the car was in sight.

Melodious Chase

We stashed the dogs back in their boxes, opened lunch bags and thermos bottles, then, between bites, discussed what a marvelous hunt it would have been if all the rabbits whose tracks we had seen had been above ground. Still, we each had a cottontail in our coat. But the dogs, except for the brief melodious chase from the jump point to the kill point, had little to talk about.

A half-mile drive put us into a new area. The habitat looked ideal—an unharvested cornfield with lots of cover under and around the still-standing stalks, bordered by a field grown up in high grass, brush, and thick low ground cover. Before turning the dogs loose, we verified that cottontails were using the area by some tracks in the snow. Then we returned to the car, pulled shotguns from their cases, turned the dogs loose, and commenced the afternoon hunt.

The cover wasn't as thick as the spot we had hunted in the morning, but there were plenty of tracks. After a half-hour's tramp, we entered the thickest area within sight. Matt jumped a bunny. It vanished before he could get the safety off. My companion called the hounds in. They vociferously took up the trail. It lasted for 50 yards and ended abruptly at a chuck hole. We continued through

the cover, concentrating our efforts in some extra-thick wild spirea, and here the dogs started on their own. The trail never really warmed up, though the chase lasted almost 20 minutes before it, too, ended at a hole.

In mid-afternoon we tried yet a third cover. A few cold-trail barks was the best we could do, even though we tramped the thick cover for almost two hours.

"Let's go back to where we started. Maybe some of those 'holed' bunnies are out feeding," Matt suggested.

I agreed. A short drive put us back into that extra-thick, much tracked up cover. This time the dogs found scent quickly, and we enjoyed a dandy chase. We were a little worried that the bunny would stay in the thicket and not offer a shot, but it didn't take long before he found the hounds too close for comfort. The rabbit left the thick streamside and headed for more open woods. That's when we enjoyed what we came for—the sweet, melodious music of beagles on a cottontail track. Scent conditions must have been improving, because the hounds "drove" the quarry. Personally I like a rabbit chase where the hounds get on a trail and make the bunny move—really move. I don't go for a slow hound that has to make a check every 30 feet.

Boomed Once

The cottontail made a big circle and came back directly toward me, but 50 yards off I saw him stop and hide under some grapevines. As the hounds approached he turned and headed away from me. Matt cut him off, veering way off to the right, and just before quitting time, his pump gun boomed once. The day's hunt was over. Three cottontails. There have been better bunny days afield, but we had worked hard and earning the game you put in your coat with hard work has a way of making you enjoy the hunt even more.

That night I had a call from another friend who owns a pack of rabbit hounds. He invited me up for a hunt

the next day. The weather looked promising, and I was anxious to give those cottontails another try.

There were three of us for the morning hunt, Paul, Don and myself. We had three hounds, Queen, Suzie, and Barb.

We started where bulldozers had piled treetops and brush along both sides of a new gasoline right-of-way. Along this narrow strip we found plenty of cottontail tracks, but the under cover was so thick it was impossible for the dogs to pry out any cottontails. After a futile hour, we crossed a macadam road and hunted the hillsides and cutbanks of an old coal stripping. The hounds jumped a bunny and ran it about 250 yards straight away before the yowling ceased.

"Must have holed him," I suggested to my companions.



WATCH those (ouch!) thorns! Thickets like this one make it tough for hounds or hunters to trail or retrieve cottontails. And maybe that's why many species of wildlife, cottontail rabbits included, take shelter in such hard-to-get-at places.



PRIMARY reason for going hunting, Sisley says, is to hear the hounds doing their thing on a rabbit trail. Beagle music is the greatest!

"Maybe, maybe," Don remarked.

"Let's move up. Maybe we can figure out what happened," Paul chimed in.

So we all moved forward until we came upon the dogs. They were scurrying around trying to find scent. We were never able to figure out if the rabbit holed or if the hounds had simply lost him. We hadn't walked 50 feet farther when I saw a cotton-tail jump ahead. There wasn't time for a shot, for he vanished almost immediately. I ran forward, shouting, "Tally ho! Tally ho!" and the dogs were on the track shortly.

"Ahooooor, ahooooor, ahooooor," Queen bawled. The two younger hounds chimed in right behind her. But the chase lasted only 50 yards and ended abruptly at a hole. The hounds sniffed and dug, but they knew it was useless. We'd have to find a new rabbit to run.

There were a fair number of tracks around the strip job, and I suppose when rabbits are above ground and

on a feeding spree, such a place might be ideal to hunt bunnies. But these days, especially during the cold weather of Pennsylvania's second season, I believe a rabbit hunter has his best luck in the thick—I mean really thick—cover. Sure, rabbits might be found anywhere, but I think more will be above ground where these critters find cover—cover so thick they feel safe *without* going underground. I mentioned those feelings to Paul, and he was in agreement. It was noon now, and Don had to leave because of a previous commitment.

After lunch we loaded two of Paul's dogs into my car and set out for a slashing that had been cut a year or two earlier. It was grown up in briars, their spiny stalks so thick among the fallen treetops that a hunter didn't have a prayer of getting through. But hopefully the little beagles would be able to squeeze between the briars.

Paul's chosen slash cover was off the beaten track. It was a mile-and-a-half walk back in, nothing but open, untrampled cover in between. I don't believe we saw more than two or three tracks. But as soon as we hit the edge of the slashing, it was unbelievable. Tracks were everywhere—not only in the slashing, but also in and around the surrounding fields and pines.

Paul encouraged his dogs to jump into one corner of the slashing that looked particularly inviting. The yodeling started seconds thereafter. That first one was a smart old rabbit, but the hounds matched him trick for trick. It was so thick that the dogs, little as they were, were having an awful time maneuvering around the briars and deadfalls. The rabbit seemed to stay mere feet ahead of them. It was tough going, but the two beagles persisted. Finally, when they were practically right on top of the quarry, he jumped from under some branches and dashed across the path where Paul was standing.

I heard him say, "There he goes!" and about a half-second later his 12-gauge pump roared and snow went

flying in the area of the departing brown form. At first I thought Paul had connected, but seconds later the hounds passed the point where I had seen the snow fly, still barking for all they were worth. Hurriedly I ran down "my" path, anticipating where the bunny might cross. He came out right where I expected, and though it was a fairly easy shot, both barrels of my 20-gauge kicked up snow behind the animal. I quickly reloaded, for he hadn't gotten into high gear yet, and connected with the third shot.

While I dressed the bunny, Paul urged the hounds down over the hill in an effort to try to get another one started. Under a big blowdown the hounds barked several times and Paul crawled up on top of the brushpile where he would have a good vantage point. I don't know how that rabbit escaped without our seeing him, but the hounds, following his trail, came out from underneath the blowdown and charged up the hill, going right over the place where Paul had been standing.

I ran ahead, trying to head the critter off, but he reached the top of the hill before I did. I waited, knowing he'd circle and come back toward the thicket. Again he gave me the slip, and about 10 minutes later the hounds barked back through an opening on my right. It would have been an easy shot had I seen him, but I must have been looking the other way when he slipped through.

This rabbit returned to the area where the hounds had jumped the first one—that super thick edge. Here the pace slowed as the beagles tried to unravel the brown trickster's trail. Finally they rooted him out, and he made his exit at the same spot the previous bunny had chosen. I rolled him on the second shot, and left him lying on the trail until the hounds found him. We spent another hour hunting that small but extremely

thick slashing. We had two more rabbits up, but both of them sought the safety of one particular corner that was piled with brush so thick that even the small beagles couldn't wiggle their way in.

As we headed back for the car, I commented to Paul that it sure paid on most days to hunt bunnies in the thick spots. He agreed. As if to have the point proven in spades, we encountered the last rabbit near dusk. The landowner had piled up 20 or 30 crabapple trees, and both Paul and I walked in and gave the brushpile a mighty kick. It was so big that we weren't able to see the cottontail exiting from the far side.

Nostrils Full of Scent

The hounds, also recognizing a top cottontail spot, jumped underneath and soon found their nostrils full of scent. It was a great chase, speedy and noisy, with a minimum of checks. Paul, who had climbed up on an old stripmine top, emptied his pump gun when the hounds circled the rabbit the first time. But it was a long chance and he failed to connect. The hounds stuck with the trail, and when they circled him the second time, Paul, who had his Poly-choke wound down to full choke, rolled the bunny at a full 45 yards. The second day's hunt was ended.

Even though you'll always find those late season cottontails in extremely thick spots, once beagles are in hot pursuit, rabbits tend to leave dense confines so that the hunter can enjoy a fast paced chase in more open country. Rolling a cottontail with a shotgun charge is always the intended result of a hunt, but the primary reason for going is to hear those hounds do their thing. Next time you try cottontails during the winter season, seek out thick, thick cover. You'll probably have a pretty fair day.



T. D. D. D.

My Philosophy of Hunting

By Donald T. Hartman

WHY DO MEN hunt? Why, with hunting and hunters under such fiery criticism, do men persist in killing wild animals at their leisure since there is, for nearly all of us, a sufficient amount of food readily available in the supermarket?

Being basically a reflective fellow and feeling myself assaulted on all sides by anti-hunters, I have for some time sought justification for my activities. Very little suitable literature is available to aid in this quest, but my introduction to it was Ortega's *Meditations on Hunting*. Ortega says many things that make sense to me, but after I finished his book I still felt that something was missing. He had spoken to me but not in my contemporary situation. Further reflection revealed the difficulty: he assumed that men would always hunt and on that premise went on to try to understand the nature of that activity.

Today, many people assume that men need not hunt. I, too, unlike Ortega, wish to understand what could ever justify my feeling so much fulfillment at bringing to bag those things which are among the most beautiful in creation—grouse, deer and a great host of others. What could ever justify their destruction?

Theories of Hunting

A great number of theories try to explain why men hunt. I shall briefly consider four of them. First, some claim that hunting is an uncivilized or barbaric form of aggression. They claim that the primitive mind enjoys killing and destroying beautiful things, achieving satisfaction only when wreckage is left in the place of what was aesthetically pleasing.

Certainly there are people like this. Throughout history, warlike individuals have commanded the attention and violated the sensibilities of decent men. However, this is no argument against

hunting. Some of the most civilized men to grace mankind on this planet have also hunted; Izaak Walton claimed, in effect, that civilization and hunting are nearly equivalent insofar as both enoble the soul.

A second theory claims that hunting represents escape from reality. The workaday world is seen as destructive of what is worthwhile in life. To continue to coexist with it, we must periodically leave to permit rejuvenation. This theory is not adequate, because nature is too real to offer an escape from reality. Nature's reality might not be apparent to those who live in plastic bubbles, secure against the cold and dark, but that does not make it any less real. Nature contains more than honeybees and pretty butterflies, and Bambi just does not exist.

A third theory to explain hunting is just the opposite—namely that hunting represents a return to reality, that only nature is what is real, and that man living in his cities longs to return to that which is most real. This explanation regards our daily human environment as artificial. And if this argument is the opposite of the previous one, there is an opposite response, too. The cities are altogether too real: pollutants in a river may be “unnatural,” but real poison kills real trout.

A fourth theory of why man hunts is that in doing so he attempts to prove his superiority or mastery over the beasts of the earth. Thus, it is claimed, a full game bag satisfies man's desire for ego fulfillment. The problem with this argument is that too many of us are humbled rather than gladdened by what we've done. George Bird Evans says in *The Upland Shooting Life*, “If I could shoot a game bird and still not hurt it, the way I can take a trout on a fly and release it, I doubt if I would kill another one. For me, there is almost no moment more sublime than when I pull the trigger and see a grouse fall. Yet, as

the bird is retrieved I feel a sense of remorse for taking a courageous life." Hunting is not a contest to be won; there is no victory and, thus, no proof that one is superior.

There's another reason why I've never felt at ease with any of these theories. None of them explain why the apparent destruction of the thing of beauty is necessary or good or worthwhile. After all, hunting has as its final act the killing of the pursued by the pursuer. It is this which must ultimately be placed within an acceptable context. Otherwise, the pursuit of hunting itself must be given up.

Good Consequences of Hunting

Aside from theories explaining hunting, a number of things are associated with this activity. It would be natural to look here to find potential justifications for the act of hunting itself.

The first good consequence of hunting is, of course, companionship—between men and between man and dog. Some of my best memories of days afield are associated with friendship, often in the absence of game. But the argument for companionship will not convince the non-hunter; he has never experienced the fullness of companionship with dog or man in the field. At the same time we must grant that hunting is not the only way to establish deep relationships with other human beings. There are other ways to achieve companionship; we don't have to kill beautiful things for that purpose.

A second worthwhile consequence of hunting is the development of shooting skill. One remembers difficult shots and shares memories of them often with friends. One's hunting memories can almost be seen as a series of pictures of these treasured moments held perpetually in one's mind. Again, however, skill and ability do not require an animal's death as the final result. We could conceivably rest content with competitive rifle shooting or shooting trap and skeet.

A third good consequence of hunting consists of all the benefits which everyone enjoys from modern game management and conservation.

Hunters' license and stamp fees have provided much money for acquisition of federal and state game lands, marshes and rivers—all of which support and perpetuate various game and non-game species. Such fees have also supported research and experimentation at the forefront of the introduction or expanded distribution of many animals, birds and fish.

A fourth benefit claimed for hunting is the rejuvenation which men experience when they go about it. This is undoubtedly true. Hunting is often difficult and requires that one be physically fit and willing to face hardship and danger. Nevertheless, it must be admitted immediately that there are other ways by which men can find rejuvenation. So this good consequence cannot, by itself, support a pro-hunting attitude.

A fifth benefit of hunting is that it provides meat for the table. The problem is that we will never convince the non-hunter that such an argument has merit; all he knows is feedlot steers and supermarket chickens. And it must be admitted that we can live by consuming such things. Therefore, once again, this argument is not sufficient to justify hunting.

The last argument I will consider in justification of hunting from the good consequences is the claim that men grow by facing danger or challenge and succeeding. In a word, it is claimed that hunting develops character. Once again, however, one could claim that there are other ways to build character. One need not kill to do that.

Why Do Men Hunt?

The reasons which help us understand and justify hunting fall into three categories: natural, ethical and mystical.

Natural - We, here and now, tend to think that we are different, modern and not like savages. But from man's advent there have been thousands and thousands of cultures, and ours is just one. Why should we think that we are the exception, that we alone are exempt from the hereditary and still largely unknown forces and drives which flowed

in the early savages' blood? The only things that differentiate between a 20th century man and a prehistoric man are the ways we deal with those forces, not that he was subject to them and we are not. Robert LeResche, a wildlife biologist with the Alaska Department of Fish and Game, points out that "many of man's behavioral and cultural attributes—attributes as basic as family structure—evolved because of his hunting heritage and are no more basic to the nature of his being than is the hunting instinct."

I am not arguing, let it be noted, that hunting is right because everyone has always done it. Rather, the point is that hunting is the only available mode by which one can fully enter the natural order. Thus, if we do not hunt, that entry is impossible.

There is always a tension between man's thinking he has progressed beyond the animal and recognizing that he ultimately cannot. Starnes, in the November, 1974 "Field and Stream," says that anti-hunters "feel guilty at the thought they share a common heritage with all the other living things of the earth" Ortega expresses the same thing when he says that the "urbanized and cultivated man has almost always felt a funny snobbery toward everything wild, man or animal."

Those of us who claim to have surpassed the savage usually do so at our own peril. It is lunacy to deny our place and participation in the natural biological order. Presently, it appears that we are making a good run at that denial, and we are close to running ourselves off the face of the earth.

There's more to this natural element. There is a hierarchy among living beings, and man is in that hierarchy. To hunt is to acknowledge the chain of being and to place oneself squarely within it. It is only right that in such a context the only possible relationship with the wild animal is the hunt.

Ethical - We have all heard, and most of us have said, that we respect the animals that we hunt. Is this possible? Both hunting and pastoral human beings consume the animals they wor-



ONE OF the benefits of hunting is that it provides meat for the table—meat that isn't shot full of growth steroids or artificial coloring.

ship, as well as worship the animals they consume. But the act of consumption presupposes a prior act, namely the death of the soon-to-be-consumed beast. In *The Golden Bough*, Frazer demonstrates that primitive hunters are concerned for each individual animal and its spirit. There is often a post-hunt ritual to placate the spirit of the particular animal killed, to point out no enmity is felt toward it. Rather, part of the reason the hunter killed it was because he wished to be more like it.

What distinguishes the contemporary hunter from the non-hunter is that the hunter is involved on an individual basis with that which is consumed. If my consumption presupposes killing, then I also kill. This applies to my consumption of supermarket beef as well as to my consumption of venison. No one can escape the fact of killing simply by having someone else do it for him. When I eat a pheasant, it is the particular pheasant which I have shot. What is the difference between a chicken one buys and a pheasant one

shoots? One knows nothing about a chicken that is bought across the counter. Buying meat denies the worth of the animal rather than asserts it.

Mystical - The upshot of the discussion in the previous two categories is that consumption of the animal is necessary for final and meaningful participation in life. Oscar Wilde says that each man kills the thing that he loves. For countless ages men have believed in the direct transfer from animal to man, from man to man, and from God to man of desirable qualities.

Even Hiawatha consumed the corn god, Mondamin, and Jung spent many pages analyzing this particular reverence. Jung says, "Mondamin is the maize, the Indian corn. Hiawatha's introversion gives birth to a god who is eaten." Jung also points out that the death of Christ "transforms him into bread and wine, which we relish as mystical food." In John 15:4, Jesus says at the Last Supper, "Abide in me and I, in you." This admits of a startlingly literal translation. Perhaps being reborn, i.e. having the gods born in one, is the same as consuming them.

If one wishes to be swift, he eats of the antelope; if he wishes to be brave, he eats the lion's heart. If one wishes to be god-like, he consumes that which he worships, thus establishing an identity between the hunter and the gods.

There is more involved in the mysterious aspect of hunting than merely the consumption of what is not understood. There is also an experience of unity in diversity and eternity in the present. Both of these experiences have traditionally been associated with mystery. In one of the most poignant passages I know, George Bird Evans ties these two elements together: "After a week or more (of missing and not getting shots at flushing birds) I have asked myself why I go on hunting grouse, especially in a bad year. But I know. I am certain the moment will arrive, if not today, tomorrow. It may not be an easy shot, but I'll make it, probably without knowing how I do it—the swing, the report I rarely hear, the grouse immobilized and falling out of a circle of feathers that looks like the

pattern of the load. As I accept the soft, warm form from a gentle mouth, my interbrain sends messages of good will to my glands, and my juices flow in a way that produces euphoria. The grouse is a loser, here, I can't forget that, but with a clean hit I don't believe it knows what happens. This is the moment when the gunner, the dog, the grouse become an entity. It passes almost with the echo of the shot, but it lives in your brain for years. At this level, grouse hunting achieves the intensity of a passion. If it doesn't you're not a grouse hunter; you're just a shooter who goes out occasionally for grouse."

One can certainly argue that we are not savages, although I hold the position that we are less distant from our forebears than some would like to believe. Certainly, there are differences. One major difference is that they had to hunt to eat and we do not. So we have less ritual external to the act of hunting itself. We don't pray to animal spirits or put charcoal drawings or paintings on cave walls. We do, however, put decals on trucks, trophies on walls, and we are known to choke at the moment of truth. Some also smear the blood of a first deer on the successful hunter's forehead.

Probably for us the act of hunting is itself the main ritual. We believe that it is the hunting itself, the day afield and not the killing, that is most important.

Conclusion

Increasingly, man is separated from nature in ways which are destructive to his existence. I claim that only through hunting can man achieve a satisfactory relationship with nature. It would follow that hunting is not only acceptable but also desirable and valuable, if not necessary. Those of us who hunt already know this.

Donald T. Hartman is an Associate Professor of Philosophy and Dean of Student Services at Juniata College in Huntingdon, Pa. He also is a dedicated grouse, pheasant and quail hunter who spends every available day in the field. Perhaps it was inevitable that his combined interests would result in this article.

PENNSYLVANIA 1776

Pennsylvanians well know the literal meaning of their state's name, "Penn's Woods." At the time William Penn purchased the first eastern sections of Pennsylvania from the Indians in 1681, ninety-eight percent of that area was covered with forests. A century later John David Schoepf, former surgeon

century. There was the wide sweep of green in the summertime, a continuous canopy of shade that maintained cool conditions throughout the summer. Pennsylvanians know the brilliance of the colors of autumn in their present forests, but it is difficult to imagine the display when most of southeastern

Forests and Animal Life In Colonial Pennsylvania

By Robert L. Butler

with King George's German mercenaries, described the Pennsylvania forests as "so thick that the tree trunks almost touch, by their height and their matted branches making a dimness, cold and fearful, even at noon on the clearest day. All beneath is grown up in green and impenetrable bush. Everywhere lie fallen trees or those half fallen, despite of their weight not reaching the ground. Thousands of rotten and rotting trunks cover the ground making every step uncertain; and between lies a fat bed of the richest mold that sucks up like a sponge all the moisture." Even today about fifty percent of the state is still sheltered by many timber species of the past.

Vast stretches of maple, beech, and hemlock forests carpeted the northern part of the colony. In the uplands of the Appalachian Plateau rose the large five-needled white pine, an important wood to the colonial craftsmen of Pennsylvania. In the southern part of the state, particularly in the Piedmont, could be found the oak-chestnut forests. Here also in the river bottom lands grew large black walnuts, along with huge buttonwoods and tall straight tuliptrees. Visitors to colonial Pennsylvania were amazed by the abundance of chestnuts.

Penn's Woods experienced great seasonal variation in the late eighteenth

Pennsylvania was in deciduous forest. The winter must have been stark, with naked trees etched against the whiteness of the winter landscape. The only occasional accent upon this starkness would have been the evergreen of mountain laurel, rhododendron, white pine, and hemlock, the state tree.

There have of course been changes in the forest. The American chestnut, destroyed by blight, has passed from the scene. White pine and black walnut trees are smaller, because the large older trees were cut so recklessly by lumbermen. The tanning industries, established in the mid-nineteenth century, decimated the virgin stands of Pennsylvania hemlocks for their bark, which was used in the tanning process. Yet, in spite of this devastation, the state tree flourishes today in the ravines of all mountain areas. In fact, although the Pennsylvanian today does not find the same expanse of forest covering his commonwealth as did the eighteenth-century colonist, he comes upon a greater diversity of plants and so enjoys in autumn a more varied display of color.

In colonial Pennsylvania's sylvan setting, extensions or outliers of prairie, together with cuts made by the river systems, provided much "edge effect." Elk, deer, and some buffalo roamed through the forest and could be seen



IN COLONIAL Pennsylvania, elk roamed the forests and were hunted by their natural predators—wolves, mountain lions—and by settlers.

frequently along these edges. Bison and elk were tracked by their natural predators: the mountain lion and the timber wolf. Black bear fed on the fruits of the forest and occasional small animals and insects. The state mammal, the white-tailed deer—so avidly sought today by hunters—had more reason to fear carnivorous beasts than humans, outside the settled areas.

Mosquitoes, blackflies, and deerflies plagued the Indian and troubled the white man in his early attempts to live on the land. Other insects not harmful to man abounded, such as the present state insect, the firefly, which relieved the darkness of the forest night. When the shad moved up the streams to

spawn, mayflies hatched in great abundance. And at the same time the shadbush bloomed, an early flower on the Pennsylvania hillsides.

In the spring jack-in-the-pulpit, trillium, and mayapple sprawled on the forest floor. Partridge berry in dense carpets, as well as wintergreen and the trailing arbutus, huddled as today under the hemlocks. Mountain laurel, the state flower, bloomed in great profusion, occasionally beside the fragrant mountain azalea. The witch hazel's small but abundant yellow flowers bloomed as the last tree flower of the season. In the skies Canada geese flew south down the major waterways. Flocks of passenger pigeons would darken the sky, or they might join the wild turkeys who were fattening on the mast of oaks and chestnuts. Eagles and ospreys had fledged their young and with the hawks headed down the ridges on their southerly migration. Brook trout, recently chosen as the state fish, spawned in Pennsylvania mountain streams during October and November of 1776.

Farms now cover the Piedmont, where the first settlers cleared the land of some of the country's finest hardwood timber so that they might work the soil. Many of the mammals are gone: the elk, the bison, the wolf, and the mountain lion. Ridge upon ridge of deciduous hardwood is nature's main legacy to today's Penn's Woods.

—From *Pennsylvania 1776*, 380 pp., 522 illus., December 1975, \$15.00; copyright 1975 by The Pennsylvania State University Press, University Park, Pa. 16802.

Grouse Association Officers Named

The Pennsylvania Grouse Association board of directors, meeting in Pittsburgh in January, elected the following officers: William F. Reed, president; James Noel, vice president; Al Schwartz, secretary; C. Dana Chalfant, treasurer. John Schweizer remains executive secretary. For 1976, the association has scheduled 20 habitat clinics in conjunction with on-site cutting sessions. Professional biologists will demonstrate what should and should not be cut to benefit grouse. These programs will coincide with educational sessions at public schools. Persons interested in the clinics may write Mr. Schwartz at Al Schwartz Pontiac, Lebanon Church Road, Pittsburgh, Pa. 15236.

A Look at Northeastern Pennsylvania, Where
The Game Commission is Making a

WATERFOWL INVESTMENT

By Chuck Fergus

GAME NEWS Staff Writer

"GREEN TREE dikes and millet," Billy Drasher said, motioning with the canoe paddle toward a dense thicket of oak and beech trees. "The dikes let us draw down water during critical growth periods to keep vegetation alive, so the trees and brush will continue to give cover to waterfowl. We plant millet on dry ground and flood it when it ripens, so the birds have food. And between good food and cover, we can hold plenty of ducks."

Drasher is a waterfowl management agent for the Game Commission, working in the eastern half of the state. He also takes waterfowl inventories, flying over southeastern Pennsylvania in a light aircraft and counting flocks of ducks and geese from the air.

But today our transportation was a lot slower and quieter than a plane; Drasher and I eased his green canoe into the dark water and shoved away from shore with our paddles. With Billy paddling and steering in the back and me supplying power up front, we skimmed across the still water toward that half-submerged thicket.

A member of the PGC's Land Management Division, Drasher selects areas where habitat for ducks and geese can be improved—or even created. Drasher started his Game Commission career in 1948 as a district game protector in Montgomery County; later, he became land manager in Dauphin and Schuylkill counties, where he served until his appointment in 1969 as waterfowl management agent. At present, Drasher lives near Orwigsburg in his old district.



SUNLIGHT glints off the dark peaty water as Billy Drasher and Chuck Fergus tour one of many waterfowl management areas in northeastern Pennsylvania. Drasher is a waterfowl management agent working out of the Game Commission's Division of Land Management.



DRASHER, left, and Land Management Assistant John Booth, Northcentral Division, examine water level on edge of impoundment.

Billy cautioned me not to hit my paddle against the side of the canoe when we eased into the edge of the thicket, as ducks could be anywhere in the watery tangle. It was as if we'd entered a different world: sun flashed off the dark, peaty water, its mirror-like surface broken only by the wake of our canoe and the paddle strokes, and trees were reflected to form a strangely vertical scene.

The hypnotic silence broke, finally, when a twig smacked against the bow of the canoe and a half-dozen black ducks rocketed out of the water only 40 yards away. Quacking, they flew off through the trees and were joined by more blacks, mallards and a few woodies that had been feeding close by.

We sat in the slowly rocking canoe and watched the ducks circle far out, forming up pairs, vees and flights with the individual birds winging through the air in the position of fingertips on an outstretched hand.

Silence Broken

It was late November, and Drasher and I were on the last leg of a whirlwind tour (seven counties and 800 road miles in three days) of Game Commission projects designed to improve waterfowl hunting in the northeastern part of the state. For the last several days, in

motels, restaurants and in the car as we'd driven through northeastern Pennsylvania, Billy had outlined the Commission's waterfowl programs. He'd explained the green tree dikes and millet mentioned in the lead paragraph of this article.

"Green tree" refers to the fact that dams or dikes flooding land—and improving or creating waterfowl habitat—are built so they don't kill trees or other forms of vegetation. The dams have what's called a drawdown capability. This means land management field personnel can drain water from impoundments in the winter, well before the sap begins to return to the trees. In spring, the sap rises, enabling the trees to grow and produce new leaves. (If water covers their roots at this time, the trees may die.) Reflooding may start in late summer without harming the trees; in autumn, water often completely covers the roots and even extends partway up the trunk. The trees and lower ground cover, flooded or surrounded by water, make excellent cover for ducks.

Millet is a grain-producing grass. It is planted in late June or July, during the period when much water has been drained from impoundments. PGC field employees plant the millet on dry ground—but ground which will be

flooded later when the water level is raised, thus letting waterfowl swim to the ripened millet to feed.

A major impetus behind recent construction for waterfowl is Project 500. This state-financed bond issue provides funds for construction on lands used for public recreation. On State Game Lands 252 near Allenwood in Lycoming and Union counties—the first stop on our waterfowl tour—Project 500 has paid for four dams. SGL 252 has a total of 18 ponds, ranging in size from one to 78 acres, which provide resting and breeding territory for thousands of ducks.

Before Project 500 funds became available in 1967, Game Fund and Pittman-Robertson monies were used for construction of waterfowl impoundments. A major area recently built with Project 500 and other funds is Shohola Dam in Pike County. Paid for with Game Fund, Bureau of Outdoor Recreation and Project 500 monies, the 1100-acre lake is an excellent duck area. Up to 80 percent of the wood duck nesting boxes erected at Shohola yield successful broods each year, and many mallards and black ducks breed and stop there during spring and fall migrations.

At Shohola, millet provides good waterfowl food, and a large refuge gives the birds a place to feed and rest without pressure from hunters. Drasher notes that even if good cover and food sources exist in an area, waterfowl may not stay if there's too much hunter pressure day after day. On Game Lands where natural refuges don't exist, the Game Commission may set aside such areas; refuges are off limits to people, but hunters can often find excellent gunning on fringe areas outside the refuge boundaries. (An interesting aside: The Game Commission owns and maintains three island refuges in the Susquehanna River—Clemsons, Sweigerts and Hoovers. Right on the Atlantic Flyway, the islands have pasture for Canada geese, resident flocks of geese, millet plantings and duck nesting devices.)

Waterfowl use marshes, ponds and man-made impoundments throughout

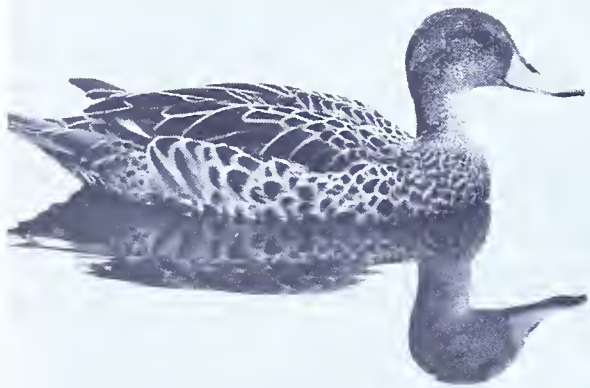
northeastern Pennsylvania. Dams built with Project 500 monies—along with those constructed through cooperation and cost sharing with The Endless Mountains Resource Conservation and Development Project—are found on SGL 57 in Wyoming County (three dams), SGL 250 (two dams) and SGL 12 in Bradford County, as well as other spots scattered throughout this corner of the state.

Beaver dams also create much waterfowl habitat in the northeast. Unfortunately, beavers don't build drains into their dams; the water backs up and kills trees and shrubs, so the dams provide good cover for only 10 or 15 years after the beavers build them and until the trees decompose or fall down.

In northeastern Pennsylvania, especially in the Pocono region, wildlife habitat is rapidly falling to bulldozers and chain saws as real estate speculators build their resorts in heretofore wild areas. This bothers Drasher, for he sees its effect on wildlife. "Swamps are

LAND MANAGER Dave Sloan shows Drasher the drawdown mechanism built into a Lycoming County impoundment. This area is on State Game Lands 134.





PINTAIL female on calm water. Game Commission management programs will benefit hunters and wildlife, and increase both the number of ducks and hunter recreation.

being drained, sectioned up and sold for lots, and more and more lakes are lined with houses. Unfortunately, there's not much we can do about it." He notes that "Snowshoe hares, bear and waterfowl are three types of wildlife especially hurt by this development."

In contrast with the random havoc of commercial development—which rarely benefits wildlife—Game Commission waterfowl management plans are designed to blend construction and improvement into the environment whenever possible, thus preserving habitat for other species. For instance, swamps on Game Lands which would be suitable for waterfowl dams are left alone if their transformation would remove habitat presently used by snowshoes or bears.

Part of our trip was a visit to an impoundment presently under construction on State Game Lands 134, northeastern Lycoming County. Here, after a jolting ride over a rutted woods road, Drasher and I met Land Manager Dave Sloan. As we walked around the project, Sloan pointed out areas that eventually would be flooded when the long earthen dike was completed and could begin to hold back water.

Drasher explained that on this impoundment most shooting would probably be done on migrating ducks,

but that it would take a period of several years before the birds found the pond and began to use it. As on other waterfowl improvement projects, millet would be planted and duck and mallard nesting devices would be put up in suitable spots.

Game Commission records show that chicken-wire and straw nesting devices increase mallard hatches tremendously. These nests are erected on poles over water, making them less vulnerable to predation. The conical wood duck boxes which increase woodie nesting success are also used by other wildlife—sparrow hawks, screech owls and songbirds.

In addition to developing suitable lands in the northeast, the Game Commission has improved waterfowl habitat throughout the rest of the state. On SGL 169 in Cumberland County, southcentral Pennsylvania, eight ponds total over 130 acres for ducks and geese; and impoundments on SGL 243, York County, and SGL 56 in Bucks County provide more habitat.

The Commission hasn't neglected the western half of the state, either; many State Game Lands there have been made more attractive to waterfowl through Game Fund, Project 500 and Pittman-Robertson expenditures. Northwestern Pennsylvania, for instance, has always been a topnotch waterfowl region with much natural and man-made habitat for ducks and geese. Many of the Game Commission's initial efforts to improve waterfowl hunting occurred in this corner of the state.

Improvements such as these have far-reaching benefits. They give waterfowl more areas on which to propagate, feed and rest; they benefit hunters directly by producing more ducks and geese and by holding waterfowl migrating from the north each autumn; and they form a tangible block of land that will remain open to wildlife in the future, when private lands may become unsuitable or claimed by development. And in the long run, this will probably be the most important return on the Game Commission's waterfowl investment.

“YOU HANG this one up, Dad, and we’ll be back in an hour,” Bill said. “We have to go back out and get one for me!” With that, number one son and his hunting buddy, Dave, jumped in the old van and took off in a cloud of dry snow. The spike buck Dave had just tagged lay on the garage floor, and soon was the first one up on the meat pole for the year.

when I was too weak to argue, so it stuck.

The four of us had joined all kinds of in-laws, cousins and friends to fill up the camp roster. And we would hunt in familiar territory which had consistently produced for us. All were confident before starting out, and time would tell upon which of us the Red Gods would smile.

This year Iain was the new one.

My Three Sons

By T. R. Them

It was barely daylight on the opening day of buck season, and the gang was just about ready to leave for some serious hunting. Bill and Dave had left the house before daylight, not wanting to wait for the rest of us, and Dave had scored only minutes after the legal shooting hour. The two boys were covering a hot spot scouted by Dave prior to opening day.

We were all staying at my old home in Wyalusing, in southern Bradford County, now occupied by my wife’s parents. Each year when deer season arrives, those family members who have moved away return to hunt together. Sort of an informal obligation exists, whereby the kids are taught the “huntin’ business” as they come of age. My two sons, Bill and Ted, had undergone their apprenticeship several years before and were now seasoned hunters. College students, the boys were back home for a day or two of relaxation from classes. My wife Betty was along to do the house chores of cooking and cleaning up after the crew.

So how come the title is “My Three Sons?” Easy. The third was Iain McMillan, a Rotary Exchange Student from South Africa who was living with me for a few months of his year in America and was accorded the title of temporary son. “Uncle Ted” was the name he hung on me at a time

At 18 he was a bit older than our usual tyro. Try as we did, we could not get away with any of the wooly yarns and perennial jokes which had worked so well on the 12-year-olds through the years. Iain was proud of his nonresident license and reminded everyone that his would be the most expensive deer. He was convinced that Uncle Ted’s old custom Mauser 270, boasting many years of experience, could do the job with his handling. He’d used that “loaner” 270 to learn to shoot, pronounced himself proficient with it and vowed that nothing would get past him on the venison circuit. And he *was* good with it—remarkable when you realize that there is almost no hunting in his homeland, and few people own rifles. His first contact with firearms was with me, after he had arrived in this country.

Iain had spent a lot of time with me—before coming to my home as a resident—and had learned the reloading end of shooting. From a 22 rifle he soon worked up to centerfire guns, mastering the actual shooting at the local rifle range. He was an apt pupil and rapidly absorbed the fundamentals. By now, he had a season of small game hunting behind him, a day of bear hunting in the “primitive” area of Pennsylvania near Karthaus, as well as a successful moose hunt in Newfoundland. So I didn’t object to his



- DOUG PIFER

good-natured bragging. It was hard to hold him back when Bill had left earlier, but I insisted that he hunt under more supervision, and that meant waiting for the main gang to go out.

Bill does his hunting with a reworked 8mm rifle, and Ted had a restocked Remington 270. Old Uncle Ted limped along with a Remington of 300 Magnum persuasion. All of us carried handloads of proven accuracy, and each used a 4X scope. The kids tried to worry me about the big bore, but I carefully explained how the hills had grown steeper and the trails much longer. And, being a member of the over-30 set, I was privileged to use a flat-shooting rifle to overcome all my failings. I was comfortable with it, knowing that very little correction was needed to connect at most any range. So my part of the gang was ready to do their share of the shooting when the time came.

Shortly after full daylight arrived, we were lined up for our first drive of the morning. All our watchers had been placed and it wasn't long before the drivers could be heard in the distance. Ted, Iain and I were on watch for this one. Conditions were about right: not too cold and a light cover of snow on the ground. I could see both my boys from my stand and was amused to note how they reacted as the deer began to ghost through our area. Their heads came up as the kids were alerted, and then reluctantly relaxed when no horns were seen. Several groups of does and their fawns of the year passed by, and shortly the drivers came into view. End of the first push, and no luck.

We moved to our second arca. We were deciding who was to stand when Dave drove up in his van to join us. My son Bill casually opened the rear doors and asked, "How's this for results?" There was no argument with the 6-point he displayed. Iain's voice upped half an octave as he admired the buck and questioned Bill as to how he could possibly shoot one

so quick, and how both he and Dave could both have scored during the first hour. Bill calmly told him it was the result of many years' experience, dedication to the art of hunting and coolness under fire. I could see the anticipation grow in Iain's eyes as they talked. He figured he was destined to take a buck home for sure!

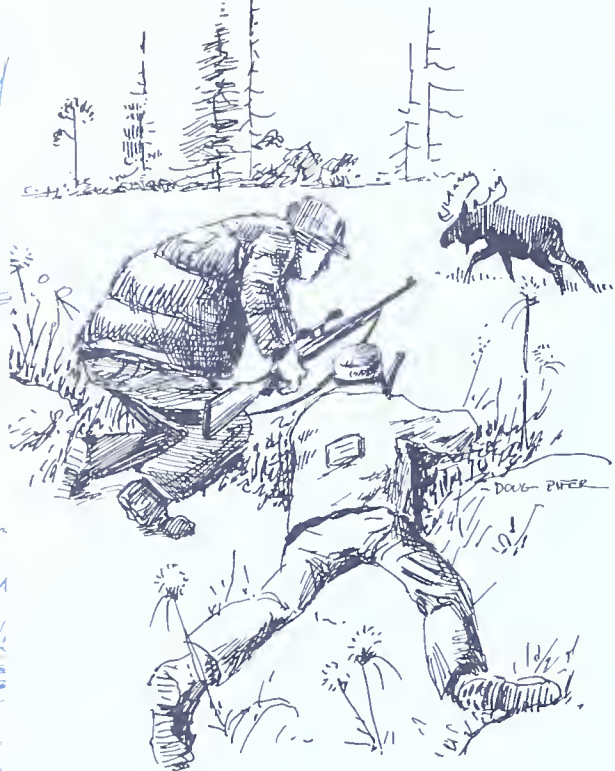
We sent the watchers on their way, as Iain, Ted, and I took our places in the drivers' line. Walking to the starting point, I had to tell Iain repeatedly to keep quiet, but he was so excited he hardly heard me. At the appointed time, we began the drive with a minimum of shouting. That early in the day, we figured that an occasional "yip" would keep us lined up, and the sound of our brush-busting would move the deer. This drive was almost a mile long, and as we worked our way forward we could see fresh sign, and an occasional flag as a deer moved out in front of us.

Drive Neared the End

As we passed the flank watchers, we got the sign that no bucks had passed that way, which meant the deer were still ahead. We heard no shooting and were nearing the edge of the woods and our last line of watchers. The drive had moved into tighter formation, as the woods narrowed at the end, and someone had to shoot soon or this would be another dry run. As the open field came into view, there was a single shot off to my right, down the hill from Iain . . . that could only be Ted.

We finished the drive and hurried on over. We found him field dressing a fat little 6-point. Again, Iain got the needle as Ted told him how to go about bagging a buck as his brother had before him. Pointing to a pile of timber slashing, he said, "I just tracked him in there and kicked him out like a rabbit, and the rest was easy!"

This time, the South African's voice jumped a full octave as he fairly shouted, "Well, if you and Bill can



BY THE time whitetail season opened in Pennsylvania, Iain already had a successful Newfoundland moose hunt under his belt, so he felt entitled to do a little bragging.

do it, I can too. I'm the third son, and now you two will have to do the dogging for me. And with such experienced hunters working for me, I'm sure to get a buck!"

Good thinking, I mused, as I watched the boys drag the deer to the road. Bill was there and, after congratulating his brother, helped load the second buck in the van.

As the day wore on and more drives were completed, two others of our party scored. Iain was still exuberant, confident, and anxious to get on with the next drive. None of us could fault him for his attitude, and I'm sure we all secretly hoped he would be able to pull it off. We returned to the house for lunch and strung our deer up on the meat pole. Tonight we would have liver and onions, that much was certain.

The score now stood at five deer for 12 hunters, on the first day, and it was only noon! Not bad; in fact,

the best we had done in many years. The two brothers decided they would drive for us the rest of the day and then leave for their colleges after dark. Seems they had cut some classes to be with us, and each could return to his campus for tomorrow's schedule. (Not only that, but each could now do some justified bragging to classmates and be a big man at the fraternity house.)

That afternoon we tried all of the small woods patches which had produced in prior years. We alternated watching and driving, so that all of the hunters with tags still attached to their licenses were in the most favored positions. The lucky ones of the morning were the unlucky ones of the afternoon . . . for they made every drive, as they "dogged" for the rest of us. Deer were seen everywhere, but not a horn could be found as the end of the day approached. Try as we might, we were not able to give Iain a chance to keep up with his brothers.

That night, as we gathered around the supper table and sat down to a fine meal of Newfoundland moose, the South African was the center of attention. Not only had he provided the steak for the dinner, but he was an alien with new stories to tell. He explained that many wild animals in his country were kept in game preserves. Continued poaching and trapping of the migratory herds had so decimated their numbers that game officials were forced to take strict measures to preserve the remaining animals. Today, no hunting is permitted in South Africa by private citizens; and the only control is handled by the reserve game officers.

Iain remarked that our concept of hunting and game management had amazed him at first, as it was so different from what he had been taught all his life, but now that he had tried hunting he was all for our system. He was especially fond of camping in a tent and roughing it on a hunting trip.

Bill finally got around to telling the story behind the deer he and Dave had accounted for. The two had no sooner gotten to their pre-selected positions than things began to happen. Half a dozen deer bounded out of the woods and ran directly toward them. All were without antlers—easily seen even in the dim light of early day.

Nervous Spike

As this first bunch melted back into the woods, Dave saw a single jump out into the open field the others had just crossed and follow their trail. A nervous spike buck, and coming right at him. No doubt this time, as Dave saw Bill motion encouragingly from his stand about 100 yards away. The little buck came on and Dave had him in the scope. As he got in good range, Dave touched off and soon was putting his tag on the day's first deer. The two boys brought this one back to town, figuring to check up on the late-risers at headquarters, as mentioned earlier. Learning we were not ready to leave, they had gone out again.

This time, the twosome returned to the same area and moved up the hill from their earlier stand. Bill took the commanding view, as Dave no longer carried a rifle. A few minutes of waiting, and Dave pointed to a deer following the same trail his buck had used. As this one approached, Bill could readily see antlers. The buck loped easily, turning at a fence line and giving a good broadside shot. The

8mm was up and swinging for a 200-yard try. At the shot, the deer turned, bounced over the fence, and ran out of view down a ravine.

The boys hurried over to the fresh tracks, thinking that Bill had missed. As they arrived at the spot where the buck had jumped the fence, Bill stooped and picked up the remains of a bullet he'd spotted on the clean snow. No blood trail and no clipped hairs were seen, but Bill realized that he must have hit the buck hard, and square on. The bullet had expanded, exited on the off-side, and then apparently simply dropped for lack of velocity. Sure enough, down by the small creek was a brown form, lying motionless. Quickly field-dressed and tagged, the buck was moved to the van. Time now to join the others, the two happy hunters thought as they drove to our rendezvous.

It would be great to finish this tale by telling you how this hunt ended with the third son tagging a Pennsylvania whitetail, but it was not to be. The second day of hunting produced no more bucks for any of us, and that night we had to return home. A tired and wiser Iain sat by me as we drove down the road, rehashing the events of the last two days. Iain realized that he had given his best and labored as part of our group. He was happy that his efforts had played a part in the success of the few and that all had not gone empty-handed. And that is a worthwhile lesson for any beginner to learn on his first Pennsylvania deer hunt.

Bigger Beavers

Beavers never stop growing nor reach a maximum growth size. Life span in the wild is about 12 years; captives have lived up to 19 years.

Forever Young

The white stork, one of Europe's best-loved birds, is so tall that when its young are two feet high, they are still immature and need their parents' care.

Names With Meaning

By George Stahl

THE TRACES OF Pennsylvania's past are etched in living landmarks. *Valley Forge, Burnt Cabins, Logans Station, Fort Defiance*—these are epitaphs that fire the imagination with visions of struggle. Other names arouse different emotions. They roll off the tongue like poetry set to music. *Con-sho-hock-en, Ma-han-tan-go, Mo-*

non-ga-he-la, Sus-que-han-na—sounds of the Indians of Pennsylvania, a nature-loving people.

Have you ever paused a moment to savor the sounds of these names, to ponder on their meanings? I did, and finally decided to satisfy my curiosity with a bit of research. Let me share my findings with you.

NAME	COUNTY	MEANING
Aliquippa	Beaver	A Hat
Allegheny	Many	River of the Alligewi
Appalachian	Many	People on the Other Side
Apolachon	Susquehanna	Messenger
Aquago	Lehigh	Where We Fish With the Bush Net
Aquetung	Bucks	At An Island
Aughwick	Huntingdon	Brushy
Cacoosing	Berks	Place of Owls
Cocalico	Lancaster	Where the Snakes Collect
Cocolamus	Juniata	Hawk
Codorus	York	Rapid Water
Catasauqua	Lehigh	Thirsty Earth
Catawissa	Columbia	Growing Fat
Chicora	Butler	Yuchi Are There
Conemaugh	Westmoreland	Otter Creek
Conneaut	Crawford	It is a Long Time Since They Are Gone
Conococheague	Franklin	Indeed a Long Way
Conodoguinet	Cumberland	For a Long Time Nothing But Bends
Connoquenessing	Butler	For a Long Way Straight
Conshohocken	Montgomery	Pleasant Valley
Conshecton	Wayne	Finished
Conewago	Adams, Dauphin	At the Rapids
Conewango	Warren	A Long Strip of Bottom Land
Conewanta	Susquehanna	They Stay a Long Time
Conestoga	Lancaster	At the Place of the Immersed Pole
Coplay	Lehigh	Smooth Running Stream
Cowanesque	Tioga	Overgrown With Briars
Chemung	Lycoming	A Horn
Chillisquaque	Northumberland	Place of Snow Birds
Chiquesalunga	Lancaster	The Place of the Craw Fish
Daguscahonda	Elk	Pure Water
Erie	Erie	Cat
Ganoga	Sullivan	Place of Floating Oil
Genesee	Potter	Beautiful Valley
Hokendauga	Lehigh	Searching for Land
Juniata	Blair, Huntingdon	
Kinzua	Juniata, Perry	Standing Stone
Kishacoquillas	Warren	They Gobble
Kiskiminetas	Mifflin	The Snakes Are Already in the Dens
Kittanning	Armstrong	Make Daylight
Kittatinny	Armstrong	Great River
Lackawanna	Susquehanna	Great Hill (Mountain Range)
Lackawaxen	Pike	The Stream That Forks
Loyalsock	Lycoming	Where the Ways Fork
Loyalhanna	Westmoreland	A Creek Flowing Between Two Others
Lycoming	Lycoming, Tioga	Middle River
Ontelaunee	Berks	Sandy Stream
Ottawa	Montour	Little Daughter
		To Trade

NAME	COUNTY	MEANING
Oswayo	Potter	Pine Forest
Paxtang	Dauphin	Where The Waters Stand
Paupack	Pike, Wayne	Deep Stagnant Water
Passyunk	Philadelphia	A Place Below The Hills
Pequea	Lancaster	Dust or Ashes
Perkiomen	Chester	Where There Are Cranberries
Pocono	Monroe	A Stream Between Mountains
Pocopson	Chester	Roaring Creek
Popacton		At the Pond
Poponoming	Monroe	Where We Are Gazing
Poquessing	Bucks, Phila.	The Place of Mice
Punxsutawney	Jefferson	The Town of the Ponkies (Sand Flies)
Pymatuning	Crawford	Where the Man With the Crooked Mouth Lives
Quakake	Schuylkill	Pine Lands
Quemahoning	Somerset	Pine Tree Lick
Quitapahilla	Lebanon	Pine Spring
Sciota	Monroe	Deer
Shamokin	Northumberland	The Place of Eels
Shawnee	Mifflin, Monroe	South Place
Shenango	Lawrence	Large Bull Thistles
Shenandoah	Schuylkill	It is a Very Great Plain
Sheshequin	Bradford	The Place of a Rattle
Shohola	Pike	Weak
Shickshinny	Luzerne	Five Mountains
Sankinach	Lehigh	Flint Stream
Salunga	Lancaster	Place of Crawfish
Sinnemahoning	Potter	Stony Lick
Schuylkill	Schuylkill, Chester	Hidden River
Susquehanna		The Long Reach River
Tamarack	Clinton	Bad Low Lands
Tamaqua	Schuylkill	Little Beaver Stream
Tiadaghton	Tioga	Limping Messenger
Tidioute	Warren	Seeing Far
Tionesta	Forest	There It Has Fine Banks
Tioga	Tioga	At the Forks
Tobyhanna	Monroe	Alder Stream
Tohickon	Bucks	Driftwood Stream
Towanda	Bradford	Where We Bury the Dead
Tulpehocken	Berks	The Land of Turtles
Tunkhannock	Wyoming	Full of Timber
Tuscorora	Juniata	Hemp Gatherers
Venango	Venango, Crawford	Bull Thistles
Wallenpaupak	Pike, Wayne	Deep Still Water
Wampum	Lawrence	A String of Shell Beads
Wapwallopen	Luzerne	White Hemp Place
Waukesha	Clearfield	Fox
Wawa	Delaware	Where The Wild Goose Flies
Wiconisco	Dauphin	Muddy House
Willawanna	Bradford	Horns
Wynooka	Pike	Beautiful River
Wyoming	Luzerne	Great Flats
Wyomissing	Berks	Place of Flats
Wyalusing	Bradford	The Place of the Old Man
Wysox	Bradford	The Place of Grapes
Youghiogheny	Westmoreland	Four Streams

Lots of Long Ones

More than 200 feathers make up the fan of the peacock.

Two-Task Tusks

The thick upper tusks of a warthog help it push through thornbush, while the sharp lower tusks serve as defense against attacking leopards or cheetahs.



JIM HIVISH, JR., of Plains, above; below, Rick Howatch, Swoyersville.



ABOVE, Bill Nace, Aberdeen, Md.
Below, Mike Farren, of Aston.



TOM BARN



Some W

BOWHUNTERS can't wait for the season's to hunt deer. In the early season, the other game season, the other season. By far, the greatest score in the earlier season year, it's no mean trick to a whitetail—especially here. Each year sees hunters taking up this ex



BELOW, Terry Horner, of Boalsburg.



PARK KAUFFMAN, above, Millersville; below, Mark Scheunemann, Philadelphia.



JERRY SCHEIPE, above of Reading. Below, D. Ross, Stoystown.





RON CADIEUX, Hudson Falls, N.Y., above; **Bob Lorence**, Warminster, below. Right, **Perry Andiorio**, Jeanette.

eld, Ohio.

Scored

an's Woods during two before the regular small completion of rifle deer er of successful archers regardless of the time of and make a clean kill on buck like many shown ed more Pennsylvania l exacting sport. Try it.



R. E. GERWIG, above, Mt. Bethel; below, **Dick Landis**, McAllisterville.

LOU DELACH, Pittsburgh, above; **Dave Pizze**, North Huntingdon, below.

ABOVE, Tom Longo, of Sheppton; below, **Ed Goyda** and **Dan Moore**, Irwin.





FIELD NOTES



Drunk Driver

CHESTER COUNTY — Recently, a ruffed grouse crashed through my living room window. The bird's crop was full of red fermented berries. I wonder if there was a connection?—District Game Protector E. J. Fasching, Elverson.



An Old Visitor

NORTHUMBERLAND COUNTY — The night before bear season, Deputy George Toth and a friend parked their camper in a wooded area of Lycoming County. George was awakened by a scratching sound on the camper. He opened the curtain and looked right into the face of a bear. The bear continued sniffing about. George tried to get his camera and awaken his buddy at the same time, but made so much noise that the bear ambled off. No, they did not see one the next day. George says this is the second time in three years this had happened to him at the same spot.—District Game Protector C. E. Laubach, Elysburg.

No Thanks!

BEDFORD COUNTY — While checking for late hunting on State Game Lands 26 during the antlered deer season, a young hunter approached Deputy Johnnie Corle and me and said he was lost. He wasn't familiar with the area but from what he told us we figured he was approximately eight miles from where he started. We took him to the area and he recognized a pipeline his group had driven on. We started down it and managed to get stuck. The three of us spent the next 2½ hours digging in the mud and ice water, trying to get out. We got soaked and covered with mud. Finally, with the help of a four-wheel-drive sent in by some Somerset County deputies, we got out. Arrangements were made to return the hunter to his home. I'm sure the next time this hunter gets lost and an employee of the Game Commission offers his assistance, he is going to emphatically state "No thanks, I'd sooner be lost!"—District Game Protector G. B. Thomas, Woodbury.

Litterbugs Go Home

FOREST COUNTY — Almost any area of Forest County has the usual litter: beer and pop cans, bottles, paper and other types of refuse. We made a few arrests on individuals we saw littering, but there were many more that showed disrespect and ignorance by cluttering up our beautiful forests.—District Game Protector A. N. Pedder, Marienville.

Thanks to You

COLUMBIA COUNTY — During a commercial on a Monday night football game, one of the players made an appeal for contributions and said that a young child who had a rare blood disease was finally getting help the United Way. His closing statement was, "Thanks to you it's working." Now, during the hunting season break, I wish to state that through the actions of you, the sportsmen of Pennsylvania, who did wear fluorescent orange during the 1975 hunting season and who did hear my appeal, our hunting accidents in Columbia County were the lowest in 15 years. We had only one accident during deer season. Fluorescent orange is here to stay. "Thanks to you it's working—for all of us—the sportsmen's way."—District Game Protector E. F. Sherlinski, Mifflinville.

Better Embarrassed Than Dead

BEDFORD COUNTY — While on patrol during the antlered deer season, Student Officer O'Hara and I stopped a pickup truck filled with hunters. As we approached, one man in the back of the truck started to rapidly lever his rifle. He soon became aware, however, that nothing was coming out. He then looked up sheepishly and stated, "Sorry, I didn't know it was unloaded."—District Game Protector B. L. Warner, Manns Choice.

Deer Numbers

SCHUYLKILL COUNTY — I was just looking back at my accidental deer kill report for 1975. The overall total is the highest I've had in my ten years with the Game Commission—825 deer accidentally killed in the eastern half of Schuylkill County, 684 of these by automobiles. These were in addition to quite a few harvested by hunters.—District Game Protector S. L. Opet, Tamaqua.



A Rash Decision

DAUPHIN COUNTY — This past season brought a new law enforcement tool to Dauphin County. After Land Manager Ken Zinn disposed of a deer, he spent the next day at the hospital trying to get rid of a rash. Returning to duty, Ken handled a deer hide and the rash broke out again. When away from any hide, the rash went away. Now, instead of training a dog to smell out illegal venison, we are going to use Zinn for searching out suspected poachers' residences. If Ken breaks out, we'll know we've struck pay dirt.—District Game Protector G. W. Packard, Millersburg.

Lotsa Room

During December, I drove over 3000 miles. In the course of my travels, the great amount of use our Game Lands are getting became apparent. During deer season it was easy to find cars parked and hunters using the public hunting areas, and at the same time one could drive for miles and not find hunters on private land. I feel hunters have to learn more about our Safety Zone and Farm Game Programs. If they do, they'll be amazed at the room they will find in which to hunt.—Land Manager R. B. Belding, Baden.

\$3 Problem

BRADFORD COUNTY — Jim Rutkowski, of Erie, after hunting deer for 13 years, finally got his first buck, a nice 6-pointer, early on the first day. His cousin Dave Rutkowski was close at hand and thought sure that Jim would be real excited. But as Dave walked up to Jim and the deer, Jim's only comment was, "Now what the heck am I gonna do with \$3 worth of candy bars?"—District Game Protector W. A. Bower, Troy.



Brazen Bruin

MCKEAN COUNTY — This officer received a call from the State Police that some hunters tenting in the Meade Run area had their deer stolen. When asked if they had any leads, the answer was yes. The thief was black and furry and was eating the deer 50 yards from the camp. When Trainee Hixson and I arrived at the camp, all four hunters were in the cab of a pickup. Sure enough, the thief was still there, sleeping—a 200-pound black bear. It took much shouting and stomping to wake him up and move him deeper into the woods. He had eaten a few pounds of meat off one hindquarter, so the hunters cut this quarter off and threw it into the woods for the thief. The biggest concern was how to make the folks back home in Ohio believe this hunting tale.—District Game Protector G. W. Waldman, Lewis Run.

Ups and Downs

FRANKLIN COUNTY — The luck of one hunter this deer season ran the full gamut from great to awful. In archery season he hit a nice buck, only to follow it up and find another hunter dressing it out. His luck changed and he won a new rifle in a drawing for a dollar. He took the rifle hunting and hit a bear. He followed the trail and found another hunter field-dressing the bear. In buck season he stopped at a restaurant and when it was time to leave found that someone had stolen his new \$90 geosdown hunting coat. I talked to this fellow in antlerless season, and he had gotten by so far without any more mishaps. But as he left, he was mumbling something about taking up fishing next year.—District Game Protector F. B. Clark, Fayetteville.

Progress

BLAIR COUNTY — Statistics show that since the mandatory hunter education classes for the under-16 group came into effect, hunting accidents have declined. Reviewing my prosecution reports for the past year, I found that few game law violators are under 18. This is possibly due to the instructions on the Game Law given during the class. Hopefully, 10 years from now we'll have few violators under 28 years of age.—District Game Protector D. D. Martin, Hollidaysburg.

Pink Elephant?

Thought I was seeing things when I observed a formation of 25 whistling swans. About halfway back one side of the vee was a red one. The Food and Cover Corps members and I decided it had been color coded for quick identification—either that or we were losing our minds.—Land Manager D. Gross, Chapmanville.

Mistaken ID?

While on assignment in Luzerne County, District Game Protector Ed Gdosky and I were called by a man who said he'd found the head, hide, and entrails of a deer in a plastic bag. It was dark when we arrived at the scene, so we decided to take the evidence back to the Division Office for closer examination. This took place during the one-day bear season, and the people from the check station gathered around to watch me open the bag. To everyone's surprise, the contents of the bag turned out to be evidence of sheep rustling rather than deer poaching. Nobody at the Training School told me that some people jacklight sheep, too!—Trainee A. C. Scott.



Shudder!

ERIE COUNTY — During the first week of buck season, a local hunter was waiting on stand when he heard the brush cracking. He became watchful, thinking this might be a buck. Then he saw the brush moving and thought he spotted antlers, but something didn't look just right to him so he waited. The "buck" turned out to be a young hunter dressed in brown with branches stuck down his collar, resembling deer antlers. He read in a book that Indians did this to sneak close to deer.—District Game Protector W. A. Lugaila, Waterford.



Flea-Bitten Apparition

CENTRE COUNTY — Too much night patrol apparently affects deputies in strange ways. Recently, in a remote section of the county, two of my deputies saw a large white rabbit hopping down the road like a ghost. One of them decided to catch it. After several unsuccessful dives into the bushes, he finally succeeded in catching the rabbit. When he returned to the car all covered with dirt and briars, he was in for another surprise—the other deputy wouldn't let him in, as the rabbit was infested with fleas.—District Game Protector L. D. Snyder, Milesburg.

Rebuttal

TIOGA COUNTY — Recently in a conversation with a game protector and a deputy, a local resident was complaining about everything in general and the Game Commission in particular. When he found he couldn't intimidate either of his listeners, he told them there was one thing for sure—Game Commission personnel should not hunt or trap. To me that's about as ridiculous as telling a dairy farmer not to drink milk or an automobile dealer not to drive a car. Wildlife conservation is our business, and hunting and trapping are management tools—and enjoyable in the bargain.—Land Manager D. W. Brown, Westfield.



Dry But Venisonless

CUMBERLAND COUNTY — It was raining pretty hard early on the first day of buck season. A hunter told Deputy Ray Finkle and me that he wrapped himself in some plastic to keep dry. Along came a nice 10-point buck, less than 25 yards away. Our hunter had wrapped himself so well that he could not get free to raise his gun. After a prolonged struggle he did break out his self-made rain suit, but of course Mr. Buck didn't hang around till that happened.—District Game Protector J. P. Filkosky, Mechanicsburg.

It's Not Too Late

JUNIATA COUNTY — As I write this on New Year's Day, I can't help reflecting on this past year's happenings. I remember the large number of hunters in both small game and deer seasons and I wonder how many hunters who tramped over fields, chased deer through woodlots and over mountain land, put on drives, set traps, bow hunted, etc., said "thank you" to the landowner. Did any of them send a Christmas Card or a small gift of appreciation? If you are one of the many who failed to do so, don't be surprised when you see those "No Hunting" signs next year. We are really fortunate that we have some land open, but we all should remember to say thank you.—District Game Protector R. P. Shaffer, Mifflintown.

Keep Your Eye on the Bunny

FOREST COUNTY — Don Lepert has helped coach the Pittsburgh Pirates for several years, and apparently he's a good hunting coach as well. During the extended small game season, he brought his 12-year-old son Mike to Forest County for a rabbit hunt with Deputy Bob Guilford and myself. It took Mike only three hours to bag his limit of bunnies, and I noted how careful he was when handling his 20-ga. single barrel. Just one more example of what a little coaching can do for a beginning hunter.—District Game Protector E. L. Taylor, Tionesta.

Idiot's Joke

CLARION COUNTY — Last deer season, someone turned in a false report that a hunter had been shot and needed help. The area was remote and road conditions bad, but a rescue truck, an ambulance and two game protectors responded. Several hours were spent looking for the victim, and many hunters in the area gave up their afternoon to help. In the end, the whole thing turned out to be a practical joke played by some unthinking person.—District Game Protector G. J. Couillard, Clarion.

Bear Helped Buck Buddy

NORTHWEST DIVISION — While working the deer check station on I-79, I spoke to an unsuccessful deer hunter. While hunting in Clearfield County, he saw a buck and took aim. Just then, a bear came racing over the hill behind him and ran right smack over him, causing him to miss the buck and knocking the rifle out of his hands. The gun was damaged when it fell down the hill. The hunter claimed he was going to file a bear damage claim for his rifle.—Forester Robert Bauer, Titusville.



By Ted Godshall

Living Memorial

THE Conservation classes of the Cameron County High School form one of 24 organizations in that county taking part in the celebration of this country's Bicentennial. Each is implementing an original project.

Under the direction of their instructor Harvey Wagner, 140 conservation students planted 8000 white, red and Austrian pine trees in a large field along Route 120 near Truman. A rustic sign, erected to identify the planting, will be set off by a background of white birch and a border of olive, rose and dogwood. The seedlings were donated by the Bureau of Forestry and the Pennsylvania Game Commission. The site was made available through the courtesy of Gerald Cato. The land will be open to public hunting.



Wetlands · Wildlife · Weather

The importance of wetlands—marshes, bogs, swamps—is particularly evident at this time of year. When spring rains fall, people are made aware of the need for natural or man-made ways to control or absorb excess water. It is then that wetlands sponge up extra rainwater and feed it slowly back into streams and rivers.

Wetlands are not wastelands. Besides the specific function mentioned, they are also havens for birds and nurseries for aquatic life. They provide a major setting for hunters, bird-watchers, and fishermen to pursue their sport. And they are a vast outdoor classroom for amateur and professional scientists, because they are the frontier between the two

great ecosystems of land and water.

The Soil Conservation Service works with many people to preserve, improve, and wisely use our wetland resources. Perhaps SCS's major—certainly its oldest—type of assistance is to thousands of individual farmers and ranchers. In one recent year, SCS assisted landowners to improve more than nine million acres of upland and more than 539,000 acres of wetland for the use of wildlife. SCS also works closely with organized groups such as the Nature Conservancy. SCS people are pleased to be actively preserving and improving wetlands, using each acre within its capabilities and responding to its needs for protection and improvement.



MOTHER ALWAYS SET WORDS TO bird songs, and meadowlarks seemed ever to remind her of our rambling old farmhouse and the need of spring cleaning, for she said the birds sang "Oh, dear—spring's here."

The Eastern Meadowlarks

(*Sturnella magna*)

By Carsten Ahrens

THAT YEAR, Sturn, the eastern meadowlark, and his mate Ella came in mid-March to the farm where they had been born. The year before, they had arrived during a winter-break near the close of February. Sturn's favorite perch was atop a sturdy fencepost by the barns that marked off forty acres of timothy.

Sturn and Ella were a bit larger than most of the other local members of their large family . . . one that scientists call the *Icteridae* family. They were a very attractive pair of look-alike birds. The feathers on their backs were streaked with rich brown; their un-

dersides were a bright yellow with a bold black crescent on the breast. The sides of the head were white; its crest bore two black stripes with a lighter one between. The short, wide, white-edged tail, spread fan-like in flight, is always a good identification mark. Bright as they were, they blended neatly into the fields and meadows on the farm. In flight they were rather like bobwhites; alternating repeatedly several rapid wingbeats that were followed by a glide.

My mother always set words to bird songs, and meadowlarks seemed ever to remind her of our many-roomed,

rambling, old farmhouse and the need of spring housecleaning. Peterson, the birdman, has the eastern meadowlark piping "tee-you tee-yair," but mother (who lived before Peterson's books appeared) believed the birds sang "Oh, dear—spring's here."

Meadowlarks aren't really larks at all . . . (*Aulodidae* family). They are closely related to bobolinks, blackbirds, grackles, orioles, and cowbirds. But we enjoyed their call. It was a clear, cheery whistle that often told us that although the weather was still most dour and arctic, spring *was* on the way.

. . . the annual round trip of migration . . .

Generally, Sturn and Ella didn't have much of a hassle with migration. There are birds like the nighthawks, for instance, that come north very late in the spring and leave very early in fall, or even late summer, in order to winter on the pampas of far-off Argentina. But meadowlarks move southward just ahead of winter and then move north again just ahead of spring. They are at home over most of the eastern U.S. and southern Canada, but are also citizens of Mexico, Central America, and the northern end of South America. If the winter tends to be mild and there is food for them about, the birds may make the summer range a year-round stand.

. . . the western cousin . . .

The eastern meadowlarks have a western relative (*Sturnella neglecta*) that looks and acts much like them. The eastern bird was named by Carolus Linnaeus and the western bird by John Audubon, who evidently felt the bird had been slighted . . . (neglected). Overlooked the western bird just couldn't be! Our eastern meadowlark has a rare, clear whistle, but the western cousin has a bubbling, fluty, most enjoyable song. Once I spent a year in Oregon where the pious Swedes told me the birds sing in Swedish (naturally) thus: "Ska-du-ga-till-kirkan-I-gad" This means, in English, they told me, that the birds are advising humans to go to church.

Bird study often leads to interesting

discoveries. Some years ago I was back on our old farm in north-central Ohio when I heard that go-to-church melody. And there flying and singing with the eastern meadowlarks was a member of the western species. I had never heard of its being as far east as Ohio. Happily, an in-law, who was a member of the Toledo Audubon Society, was visiting the farm and I could verify the bird's presence in Ohio with him.

. . . if at first you don't succeed . . .

The year before, Sturn and Ella had raised two broods in a nest in a patch of tall, white sweet clover. This year, Ella selected a collection of close-growing clumps of the yarrow plant for the site. The over-winter leaves and stems, though dried, hid her activity and soon new shoots, the frond-like leaves, and flowers would conceal her and her young from the world. The nest was rather shapeless for it followed the contour of the thicket, but it was roomy and comfortable. She had deepened the base of the nest by using her beak and feet, and had arched the vegetation overhead to form sort of a domed roof that shed rain.

But the year began with tragedy. The first setting contained five white, heavily dotted and spotted eggs which were broken and eaten by a hungry skunk. If Ella had sat still a second longer, the predator might have passed without seeing the nest. If she had seen the skunk sooner, she would have gone to meet him, feigning a broken wing or crippled leg, and gradually led him away from the area. But suddenly the skunk was there, and although she brushed past him and put on her act, he had seen the eggs and paid no heed to her histrionics.

By the fence and just across a little ditch, in the disorder of a fallen spruce tree, a domestic turkey had hidden her nest. She had sat as though carved bronze while the skunk worked havoc at the meadowlark's nest.

Sturn helped Ella clean up the mess, find and bring in new bedding stuff. In a situation like this, a meadowlark doesn't give up in despair; it starts a second setting. But this time the nest held only three eggs.



IF ELLA had sat still a second longer, the predator might have passed without seeing the nest. But suddenly the skunk was there. He saw the eggs and paid no heed to her histrionics.

. . . a second attempt . . .

No unhappy incident marred this nest. Ella sat on the three eggs for less than two weeks; the turkey hen neighbor incubated her nine eggs for 28 days. But as soon as the young turkeys left the shells, they ran about at once, wide-eyed and eager to start on a field trip with their mother to find food. So as soon as the last poult hatched and could move about, the old hen took off with the nine and never returned to the nest in the spruce.

Life was quite different in Ella's nest. When the three little meadowlarks hatched, they were blind and helpless for several weeks. Sturn and Ella spent most of the daylight hours for over a month hunting for grubs, caterpillars, insects of all kinds which they carried to the nest and crammed into the open mouths of the little birds. There seemed to be no bookkeeping in all this activity. When a parent arrived at the nest with, say a potato beetle, the mouth that opened widest on the neck that reached highest, received the food. Even after the young ones were

able to run about and fly, they expected to be fed by the old birds. As a lad I often wondered if the parents of helpless young birds—robins, sparrows, wrens—didn't envy those birds with precocial young—grouse, quail, chicken. And of course they don't. They are governed by instinct. If they could reason, they might.

. . . the ups and the downs . . .

The days that followed were full of pleasant experiences and near tragedies. There were unexpected meetings with snakes and foxes, rats and an opossum, a sharp-shinned hawk, and always that pokey but persistent skunk. Once a sudden cloudburst floated the birds into a suddenly-made pond. Fortunately, it emptied quickly and the feet of the almost waterlogged birds touched bottom and they scrambled to safety. There was a cold, wet spell with no dry spot available, but they happened on the old nest, and they found the dome-shaped structure warm and dry; they stayed close for three days.

The summer days were running out. Now the three were as big as their parents, and the five feasted on the insects that made up the bulk of their diet. Later, when frosts came and killed the insects, they joined other meadowlark families and gleaned the grains of wheat, oats, barley, and corn that had dropped during harvest time. They devoured many dried-up insects that the cold had killed. They ate countless weed seeds—which meant countless plant pests would never grow because of these birds. Farmers are often unaware of the debt they owe to meadowlarks.

When the snows buried their hunting grounds, they moved on southward to wherever meadows were clear of the white blanket. Cold, per se, doesn't seem to faze them. During the roughest months, they work silently, even a bit grimly. But once the first skunkcabbage stirs in the dark, when winter turns the first corner, the birds head north. And the clear whistle of the meadowlarks—along with the voice of the mourning dove—is heard in the land.

In The Dog House

By Norma E. Leary

"TOO MANY HUNTERS neglect their dogs until a few days before hunting season opens. Then they bring me a half-starved, worm-infested animal and expect me to perform a magic act and have it on its feet in two days," our veterinarian reports vehemently.

This doctor is not alone in his experiences. Another vet says, "Some hunters think so little of their hunting dogs that they actually do away with them at the close of the season, or they take them out into the country and abandon them." He also told how a dog suffers if it's not exercised in gradually increasing amounts before hunting season opens. "Conditioning is sensible and important," he says.

These two veterinarians recommend the following for hunting dog health care:

Feeding. Amounts vary with the size of the dog. The heavier the animal the fewer calories he requires per pound of body weight. Under average conditions, a 2.2-pound dog should consume approximately 64 calories per pound per day, while a 22-pound dog requires only 34 calories per pound of body weight. Feeding charts can be obtained from your veterinarian.

Should you feed your dog meat versus meat plus cereals? Although dogs were originally carnivorous, (the leading argument for feeding them meat alone) they usually ate their entire prey, including fat, plus grasses, grains or fruits from the stomach contents. The domestic canine still needs all these nutrients, plus carbohydrates, minerals, vitamins and a constant supply of water. A water dish can be securely fastened so the dog can't upset it, and all dishes should be kept clean.

A dog in open winter conditions needs some 10 percent more fuel for



IT HAS LONG been said that a dog is man's best friend, and that's doubtless true—no matter what the age of the man! Youngsters who grow up with the companionship of any kind of dog build memories that last a lifetime.

his size than the same dog kept indoors. The working dog, pregnant or nursing bitch and puppies all require extra food. This is not so for an old dog, however, who will degenerate faster when over-fed due to poor absorption in the intestinal tract, a condition brought on by aging. Fat intake should be only 10 percent of the diet and can be in the form of meat drippings or corn oil.

Don't give your dog a chop or chicken bone that may splinter and puncture his stomach or intestines or get stuck in his throat. Smoked meats are not good for your dog—in fact, they are almost indigestible, as are raw eggs, according to some animal authorities.

Worm prevention. A sanitation crackdown is the answer to preventing or getting rid of intestinal parasites. "Worm him and he'll be all right" is slipshod reasoning.

Dogs pick up worm eggs from the ground, from other dogs, mice, rabbits, and other animals. To discourage worms, the pen should be cleaned and sprayed often, and bedding (cedar shavings or straw is best) should be changed regularly. Leftover food should be removed so as not to draw flies or mice.

A dog being treated for worms can re-infect himself if he is permitted near his own feces, so keep the area free of droppings. A concrete run is ideal, for it can be hosed and disinfected. A wire pen raised above the ground solves the cleaning problem but may be hard on your dog's feet.

Diarrhea, bloody stool, vomiting, weight loss, and intestinal cramps or anemia indicate your dog might have worms. If there are no obvious signs, laboratory tests will tell the story.

Other causes of ill health. External parasites that can trouble your dog are fleas, lice, ticks, mites and ringworms. Heart worms, once found only in the South but now reported in New Jersey and Michigan, are transmitted to dogs by mosquitoes and are a threat to man, as are ringworm and mange. Screening the dog's housing quarters is beneficial in heart worm control, and combing and brushing the animal's coat is better than a bath. Frequent bathing dries out the skin, leading to more skin disorders; matted hair provides a breeding place for insects.

Vaccinations. Distemper, hepatitis, leptospirosis and rabies can all be prevented by vaccination. Keep a record of the shots your dog receives and make sure he has boosters when they are needed. Additional disease symptoms to add to those given above include listlessness, loss of appetite,

coughing, signs of paralysis, sleeping more than usual and abnormal thirst. Don't waste time on home remedies if you think your dog is sick. Get him to a veterinarian immediately. He deserves proper care.

Another common complaint veterinarians make is that some owners don't spend enough time with their dogs to know whether the dog is sick or not. For this reason, "The house pet's health is generally better," says one vet. "Personal attention is a health aid. A hunting dog kept inside does not necessarily lose his nose, meaning tracking ability, and a dry warm nose doesn't automatically mean illness but may represent a need for water." While shooting down these two worn-out theories, the doctor also commented that onions and garlic will not cure worms.

Population explosion. An estimated 5000 to 6000 dogs and cats are born every hour in this country. Add them to the 100 to 120 million we already have, and you may consider having your dog neutered.

Currently, animal authorities are trying to promote legislation that would raise the price of dog licenses for fertile dogs to prompt everyone but dog breeders to have their animals altered. The cost to the taxpayer for the official destroying of abandoned dogs and cats will increase if owners don't begin to plan effective birth control measures for their animals. Recently, Los Angeles County spent half a million dollars killing unclaimed dogs.

The old adage about "leading a dog's life" hints at an unpleasant situation for the dog and doesn't say much for its master's intelligence. If you can't take care of a dog properly, you don't deserve the devotion of man's best friend. Tend to your hunting partner's health and happiness, and he'll really beat the bushes for that bird or rabbit.

Foundation to Benefit Officers

GUY COHELEACH, internationally acclaimed wildlife artist, has donated a number of limited edition prints of his wild turkey painting to a national foundation set up to provide benefits to the families of wildlife officers who are killed or die in the line of duty. The Coheleach prints will be used to help raise funds for the recently formed National Foundation for Conservation and Environmental Officers.

The idea for the foundation was conceived after the shooting of two South Carolina conservation officers in 1974. It is estimated that over 100 families of state wildlife employees have lost the head of the family through a service-connected death. When federal and private organizations are considered as well, the families concerned may exceed 200.

The foundation was incorporated in the District of Columbia and has been granted tax exempt status.

Death benefits and other compensations paid by government to the families of wildlife employees killed in the line of duty vary from state to state, but in no case can they be considered excessive. Now the family of any wildlife employee who has died or been killed in a job-related activity will be eligible for financial assistance from the foundation.

Contributions are being accepted for the foundation, and are tax deductible. All contributors of \$100 or more will receive the special limited edition full color print of Coheleach's wild turkey. Contributions may be sent to the National Foundation for Conservation and Environmental Officers, 44 Main St., Clinton, N.J. 08809.



THIS black-and-white reproduction can not do justice to the beauty of Guy Coheleach's wild turkey painting. Prints will be given to some contributors to NFCEO.

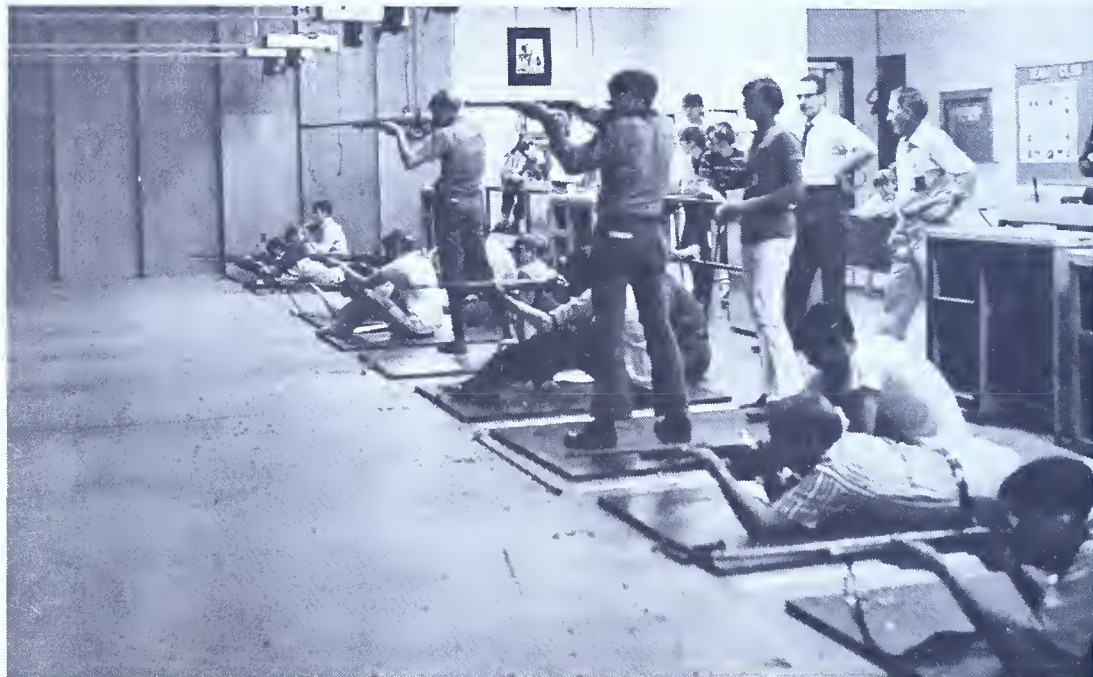
Deer Sportsmen of America

"Deer Sportsmen of America" is the name of a new group dedicated to serving all species of the deer family—deer, elk, moose and caribou—and those wildlife enthusiasts who are interested in these species. The organization publishes a magazine available only to members. All information in it relates to the deer family. DSA will be a clearinghouse for information on these four animals, and will be vitally concerned with management problems and in educating the public about game management. Annual dues are \$10 and members will receive the bi-monthly magazine, "Deer Sportsman," edited by Stan Meseroll. The organization's address is Deer Sportsmen of America, PO Box 24, Marlinton, W. Va. 24954.



HUNTER EDUCATION

By John C. Behel
PGC Hunter Education Coordinator



Forty Years of Firearm Safety

By Robert C. Gibilisco

THE Carpenter Steel Rifle Club was organized February 6, 1975, and started shooting as a competitive smallbore rifle team on the Reading YMCA rifle range. In 1936, Carpenter converted a large barn along the Schuylkill River to a 75-foot indoor rifle range. It was here that the older members of the team pioneered some of the concepts of precision rifle shooting.

The club's formal junior training program, "Handling and Safety of Firearms," originated on this range in 1952. In 1961, Carpenter built a new 50-foot range in a building formerly owned by the Reading Dye Works. This, the club's present range, has

nine firing points and is one of the finest and best maintained indoor ranges in the northeastern U.S.

The Game Commission's Hunter Education Course became part of the club's safety program in 1968, with the addition of an archery and shotgun lesson.

The present training schedule consists of eight two-hour lessons:

Lesson No. 1—A talk by the district game protector, two films on home firearms and hunter education, and a bullet penetration demonstration.

Lesson No. 2—Firearms nomenclature, bullet construction, sighting bar exercises, and explanation of the five-step, integrated shooting method.

Lesson No. 3—Firearms maintenance, rifle cleaning demonstration. Trainees start firing 22-caliber rifles during this lesson.

Lesson No. 4—Use and maintenance of archery equipment. Each trainee shoots at least ten arrows.

Lesson No. 5—Shotgun handling, shotshell construction. Each trainee shoots at least five rounds at clay pigeons.

Lesson No. 6—Sight adjustment - In lesson No. 3, the targets were scored by using a clear plastic overlay giving the highest possible score. From this lesson on, actual target scores are recorded, making sight corrections if necessary. Shooting is continued through this lesson.

Lesson No. 7—Shooting rhythm, consistency and uniformity. Shooting is continued through this lesson.

Lesson No. 8—Review. Shooting is continued through this lesson. At the conclusion of Lesson No. 8, Hunter Education certificates, safety brassards and NRA safety and qualifying diplomas are awarded.

Since 1952, 800 young people, as well as a large number of adults, have been trained by our instructors. Trainees included Boy Scouts and Explorers who qualified for merit badges, Demolay groups, and juniors from all parts of Berks County. On record is a group of Albright College students which included exchange students

from Nairobi and Uganda, Africa. Twelve juniors have qualified for the National Rifle Association's Distinguished Rifleman award.

Presently, range activities are scheduled on Sunday mornings and Monday, Tuesday, Wednesday and Friday evenings, at which times practice and inter-county league matches are conducted under the supervision of qualified instructors.

All equipment, including rifles, ammunition, shooting attire, and targets, are owned by the CarTech Rifle Club and are used at the range by those enrolled in our training program. The Safety Course is held twice a year and is limited to 18 participants, with Carpenter employecs and their children having preference.

The club members are proud of the successful program. To the best of our knowledge, none of the juniors trained by the club has ever been involved in any firearms mishap or game law infraction.

The CarTech Rifle Club, which is observing its 40th year of firearms safety training and competitive rifle shooting, would like to take this opportunity to express our gratitude to its sponsor, Carpenter Technology Corporation, for its cooperation with the Pennsylvania Game Commission and the instructors at the rifle range for providing the club with its excellent training facility.

Books in Brief . . .

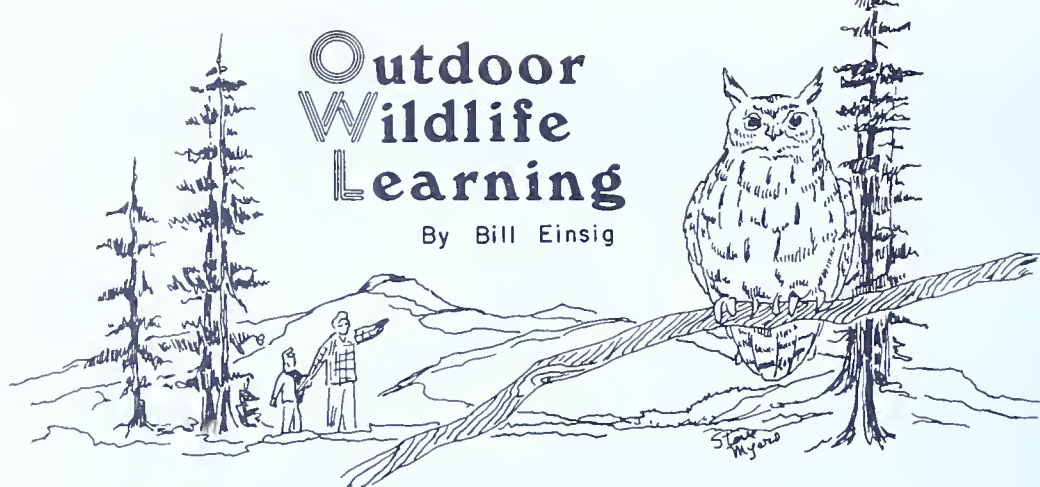
(Order from publisher, not from Game Commission)

Your Dog: His Health and Happiness, by Louis L. Vine, D.V.M., Winchester Press, 205 E. 42nd St., NYC 10017, 459 pp., \$10. A one-volume encyclopedia of dog care that provides accurate, easy-to-follow advice for every aspect of dog ownership, from buying a puppy to veterinary advice for all dog illnesses. Highly useful for any dog owner or would-be owner.

Hunting America's Game Animals & Birds, ed. by Robert Elman and George Peper, Winchester Press, 368 pp., \$12.95. Tells how, where and when to hunt all varieties of game on this continent. Chapters by 40 of America's leading authorities, with first-hand information on guns, vehicles, boats, knives, scopes, etc., as well as hard-earned dope on critters from the size of chucks to grizzlies, gamebirds from doves to turkeys, plus coverage of predators, waterfowl, and even advice on outfitters. An impressive, profusely illustrated volume.

Outdoor Wildlife Learning

By Bill Einsig



Wildlife Notes

GAME NEWS readers should be familiar by this time with the "Wildlife Notes" written by Chuck Fergus. These notes give a rather comprehensive and useful summary of the natural history of common Pennsylvania mammals. If you don't have your free set, send for it today.

The National Wildlife Federation has produced a similar series (under the same title—"Wildlife Notes") that deals with ten different North American animals. They too are excellent. NWF will give you one free set for the asking. Additional sets are 25¢ each. Their address is 1412 Sixteenth Street NW, Washington, D. C., 20036.

Conservation Education Association

The Conservation Education Association is a national non-profit organization supporting conservation, outdoor, and environmental education. CEA feels the key to an enlightened public is through education, both formally through schools and informally through outside agencies and publications. Their membership roster is an interesting mixture of college and university professors, government agency specialists, high school teachers and many others working in the field of education. Collectively they represent a staggering amount of experience and stand ready to help.

If you're not familiar with this group, write to Dr. Robert S. Cook, Secretary-Treasurer, CEA, University of Wisconsin-Green Bay, Green Bay, Wis., 54302.

Build it Yourself!

Too often camp counselors and teachers shy away from conducting field projects with their students because they feel the lack of necessary equipment to

collect meaningful data. Often such equipment is expensive, delicate, and demanding. Most budgets are well trimmed these days and do not allow for major expenditures for a variety of equipment. Another drawback of precision meters and optical instruments is that they require constant attention—adjustment, repair, and cleaning. In fact, it is possible to spend more time teaching a student *how* to use an instrument than *why* it is being used!

A partial solution to all of this is to have students construct the equipment they need themselves. Every teacher, scout leader, camp counselor or parent should have a copy of "Outdoor Education Equipment" by Russ Bachert and Emerson Snooks. These fellows feel the choice and construction of needed equipment is as important to the study as the data collected. That's a good point and one many of us forget. Bachert and Emerson present plans and construction hints for a wide assortment of tools that would be cheaper to build than to buy—box traps, measuring wheels, beetle traps, plankton nets, nature blinds, even a seismograph! Plans for more than 100 pieces of equipment are included within a format simple enough for most students from upper elementary through secondary levels. Trim your budget and save your money for something you can't build yourself.

For more information, write to the Interstate Printers and Publishers, Inc., 19-27 N. Jackson Street, Danville, Ill., 61832.

Lincoln Index

One of the key factors in the study of animal communities is the estimation of population size. There are many techniques designed to estimate the abundance of organisms within a specific area and the choice of technique is based on the characteristics of the animal being studied and the kind of data needed. The

procedure described here is a mark-recapture method developed in 1896 by C. G. J. Petersen for his work with fish populations. Several decades later, F. C. Lincoln adapted the technique for use with certain bird studies and it has since been widely used for studies of certain mammals.

Briefly, the technique is divided into two parts. During the first phase animals are trapped, marked, and released, hopefully to mix at random with the remaining population. Then, during the second phase, animals are once again trapped and the number of recaptures (those previously caught and marked) are recorded along with the total captured during this phase.

Based on this data, the following ratio can be established:

$$\frac{N}{n} = \frac{T}{t}$$

Where N = Population estimate (the unknown)
 n = Animals marked in first phase
 T = Animals captured in second phase
 t = Marked animals in second phase

As an example, suppose a biologist trapped and marked 20 rabbits (n). Later, she once again set her traps and caught 18 rabbits (T) of which 12 (t) were marked and thus had been caught before.

Therefore, n = 20 Rabbits
 T = 18 Rabbits
 t = 12 Rabbits

So, N = $\frac{20 \times 18}{12}$

 N = 30 Rabbits (the estimate)

You can illustrate this technique, and also some of its weaknesses, using an artificial population. Dried peas, beans or corn are inexpensive, convenient and small enough to make large populations possible. I prefer rice grains because each group of 2-3 students can work with a population of over 1000 individuals in a small culture dish. In addition, rice grains can be marked before hand by soaking for a minute or two in diluted food coloring and dried on paper towels. Soaking too long will allow the rice to absorb too much water, causing the grain to crack easily when dried.

Students are given a small mound of unmarked grains to which they add a known number of marked grains (n). This mixture represents the population at the end of the first capture period. Then the students are asked to randomly "capture" a number of individuals (T), count the

number marked (t), and calculate the population estimate. Obviously, the procedure should be done several times and the results averaged. Finally, in order to check the accuracy of the estimate an actual count is made of all rice grains in the dish. Expect mixed reactions to this step and wear a small sadistic smile!

After you have compared the actual count to the estimates, and the laughter over the huge errors has subsided, settle down to a discussion of the weaknesses of the technique, assumptions necessary for its use, and ways to improve the method's reliability. It is important to mention that the usefulness of the estimate lies not in its absolute value but in its trend over a period of time. While the estimate may not give an accurate head count, it will reflect increasing, decreasing, or static populations if results are collected over a number of months or years.



CHUCK FERGUS, formerly of State College, is shown working on one of his **Wildlife Notes**. Series contains info useful to teachers.

If you or your students are interested in more information on how to implement this exercise, contact me at my field address. In addition, the PGC has recently published a 10-day unit on wildlife biology entitled "Wildlife Educational Aids," which includes this technique as the activity for Day V of that program. You will want to have a free copy of this unit. Just request it from PGC, Information and Education Div., Box 1567, Harrisburg, Pa., 17120, or from your local game protector. Good luck!

Material for possible use in O.W.L. should be mailed to:

Bill Einsig
 1912 Karyl Lane
 York, Pa. 17404

Pick-A-Kit and Sew

By Susan M. Pajak



KITS FOR down clothing items are not overly expensive and can be constructed on a sewing machine . . . with a little practice, of course.

REMEMBER ME? I'm the one who not too long ago confessed to not being able to put together two seams of material and sew them up right. Well, bingo! Not only can I now sew them together but those two seams have since turned out to be some nice outfits for our two school-age daughters who, as other mothers of young girls have experienced, could not possibly attend classes unless wearing something new every day!

But the need to refresh my knowledge about sewing and things related is the direct result of today's high clothing prices; indeed, the price of

most anything. What was a dime yesterday is sure to be a dollar tomorrow. Or maybe two dollars.

So with these inflationary thoughts needling my mind, I set to wondering if by chance you, too, would be interested in making some cold-weather clothing for yourself and family.

I know for sure that I am going to try assembling some down jackets and things for my girls and Frank, as they all love to be outdoors in snowy, cold weather. Also, when our girls have to wait for the school bus time after time in the freezing cold with a wind-chill factor of below zero, I have a genuine motivating factor for home sewing.

As you already suspect, I have long been thumbs up for down—overwhelmingly so when posted for deer for hours on end—for our cold weather here in Pennsylvania. No doubt there are those who forever will uphold the annual tradition and ceremony of donning the woolies, and so be it, but a new day is dawning—er, dawning—when lighter, more comfortable outfits are being sought.

Four Companies

So far my nosing around has brought forth the names and addresses of four companies that offer to sell sew-it-together-yourself kits for clothing and other items. If you want to send for the catalogs, here they are:

(1) Eastern Mountain Sports, Inc., 1041 Commonwealth Avenue, Boston, Mass. 02215 (\$1.00); (2) Holubar, Box 7, Boulder, Colo. 80302 (free); (3) Frostline Kits, 452 Burbank, Broomfield, Colo. 80020 (free); and (4) ALTRA Inc., 3645 Pearl Street, Boulder, Colo. 80301 (free).

If you haven't had a go at the old treadle or the electric for a while, I suggest you give the machine a workout just to make sure it is working. Nothing is more frustrating to a seamstress, or a potential seamstress, than to have the

GIRLS, GUNS, & GAME...

sewing machine suffer a sudden case of the zits in the front panel simply because of an old, rotty belt that got over-excited and flipped out.

Check the tension for even top and bottom stitches and lightly oil the machine. Try a new needle; clean away lint and fuzz. If you think the machine does need a new belt or other minor adjustment, have hubby look at it first, if he is mechanically minded.

Working with man-made materials such as nylon and polyester can be interesting, if only in trying to keep them from sliding off the machine.

Before we get into some do's and darts of sewing up one of these kits next month, I recommend you select some remnant pieces of these new materials and get used to handling them, as well as sewing with them, so that when your kit does come you won't be afraid to start.

For my first project I have selected the "Kinnikinic Sweater" kit from Holubar (only because their catalog arrived first, ALTRA was second, etc.) for Frank. It can be worn alone as a light jacket or under something else. And it is insulated with down.

Frank remarked that even if I do make a little boo-boo putting it together, at least no one will see it under his coat. His words of encouragement leave me absolutely speechless at times . . . until next month, then.

Cooking Tip: A good coating mix for preparing rabbit consists of seasoned flour, egg and milk. In a shallow soup bowl mix one large egg, or two small,

with two tablespoons milk. In another bowl put a full cup of flour to which salt, pepper and dash of celery salt has been thoroughly mixed in, three good shakes of salt and one of pepper. Take one fresh-dressed rabbit and section. Wash and clean well. Pat dry. Dip a section in egg and then in flour, covering well. Then dip it again and flour again. Place carefully in hot fat or oil and sizzle until nicely browned. Place all pieces on foil on a cookie sheet. Very lightly sprinkle celery salt on each piece. Bake one hour at 350 degrees.

Outdoor Women Organized

The nation's first outdoor sports organization for women has been formed. Called "Outdoor Women," its goal is to help women of all backgrounds feel at home in the great outdoors. It will oppose discrimination against women's participation in certain outdoor sports, work to get women proper-fitting attire for outdoor activities, encourage them to take part in outdoor sports, etc. Outdoor Women has as its executive committee Joan Cone, author of several game cook books; Sheila Link, a director of the Outdoor Writers Association of America; Margaret Nichols, assistant managing editor of "Field & Stream"; Ann Snow, operator of a wild game preserve in Texas; and outdoor writer Kathleen Farmer. For further information, write to Outdoor Women, 500 12th St. SW, Suite 810, Washington, D.C. 20024.

THE 1976 NORTHEAST FISH AND WILDLIFE CONFERENCE

The 1976 Northeast Fish and Wildlife Conference will be hosted by the Pennsylvania Game Commission and the Pennsylvania Fish Commission at the new Hershey Convention Center in Hershey, Pennsylvania.

General Chairman Harvey Roberts, Deputy Director of the Pennsylvania Game Commission, has announced that the dates of the Conference are April 26 to April 29, 1976.



CANVAS TENTS are expensive to replace; check yours often and carefully. (Note: erection with cut poles is not recommended for Pennsylvania camping. This setup was on a trip in the Canadian wilds, where suitable dead timber and lack of camping pressure makes such construction okay.)

Let's Make A Maintenance Check

By Les Rountree

MARCH IS a month of anticipation. In most parts of Pennsylvania, the weather can't make up its mind whether it wants to continue being winter or blossom forth into an early spring. Chances are, it'll be a combination of nice and nasty March usually turns out that way.

But there are always a few glimpses of the balmy days to come that make the camper's heart beat a little faster. Camping and hiking adventures are planned and lists are made. The good planners use March for inventory time; the rest of us just hope that everything will be in good shape when we begin to gather up the remains of last year's accouterments. To my sorrow, I recently discovered that I made a big mistake last fall. My favorite sleeping bag is ruined! And it was my own fault. This caused a two day search-and-repair party to study all my camping gear with more than a haphazard once-over. You

might consider doing the same thing. It'll save time and money when the first trips of the bicentennial year begin.

About that sleeping bag. It was a two-layer cotton bag filled with five pounds of down that had served me well for seven seasons. It was far from being worn out, and I fully expected it to last 10 more years. I like cotton against my skin more than the popular rip-stop nylon that is in vogue these days. And that's what made me the maddest. Finding a good quality bag with a cotton inner shell is no easy matter.

I committed the cardinal sin in sleeping bag care and stuffed the bag into its carrying sack when it was still damp after a rather soggy hunting trip. Airing it out on the back lawn for a couple of sunny days would have been the right thing to do . . . but I didn't do it. Mildew rotted the cotton, and when I got around to checking on its condition,

I was astonished to see feathers explode into the air! There was no way I could salvage anything and believe me, I was sick. A few small holes in a sleeping bag can easily be sewn up with nylon thread but this bag was beyond all help. It had quite simply disintegrated.

In spite of my preference for the cotton fabric next to my skin, I guess I'll be forced to use a different bag . . . one of the nylon jobs. After one recovers from the initial shock of climbing into a nylon bag, it's just as warm as the cotton model. And will probably last longer. Nylon is nearly impervious to mildew (or so it seems), so you don't have to be quite so fussy with it. It's still a good policy, however, to dry the bag thoroughly before storing it for the season. Ann has used a nylon-covered Gerry bag for five years and it looks as good as new. To avoid the chilly feeling of the nylon, I suppose I could buy or make a cotton flannel liner.

Air Mattress Check

An air mattress is another item to watch carefully, or at least check on at this time of the year. The rubber or rubberized models have ways of developing leaks even if they haven't been impaled on something sharp. If the hole isn't too big, it's easy to patch with a rubber inner tube kit. If the fabric is very thin, you might get by with a strip of plastic tape sold in most hardware stores. Scotch Brand makes a roll of stuff that is just right for patching waders, and I'm sure it will work just fine for air mattresses.

While on the subject of air mattresses, I'd like to say a word in favor of them. I know that the foam rubber pads are all the rage for camping these days but an air mattress provides solid sleeping comfort if you have the extra room to tote it along. No good for the lightweight backpacking outfit, but when

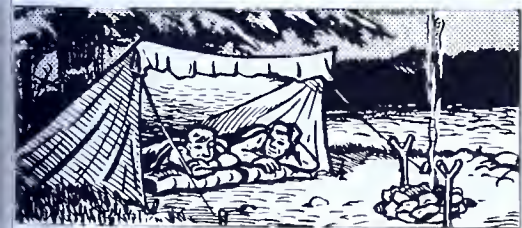
car or truck camping an air mattress can be a real comfort after a hard day in the field. The main reason some people don't like 'em is because they blow them up too firm. An air mattress should have just enough air in it to keep your hips and shoulders from touching the hard ground or an unyielding canvas cot. Mine is now 21 years old and still going strong, although it has been patched a time or two. If you camp in a station wagon, you shouldn't be without one.

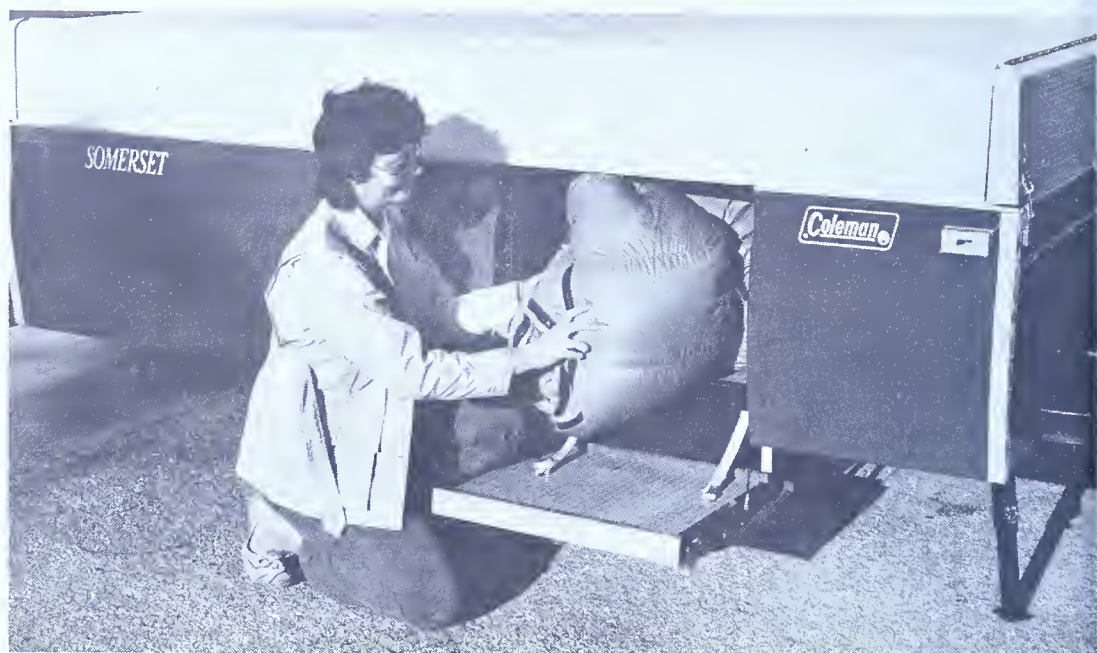


DON'T toss those comfortable, worn-soled shoes in the closet! Get a shoe repairman to sew on a set of cleated soles as replacements.

Canteens are items which also can develop small holes after a few seasons. Check yours for leaks right now and patch any holes with a spot of epoxy glue. First, dry the canteen out thoroughly (a warm oven works fine) and then apply a bit of the two-part glue to the hole. The repair will last indefinitely. How did we ever manage without epoxy? I use up at least five tubes of the stuff each year for a variety of jobs. It will stick almost any two things together, and the bond is usually stronger than the original material.

The same careful going-over that the sleeping bag receives should also be applied to all tents in your collection. If you have one of the old, genuine canvas jobs, look that one over very carefully. Mildew is the chief enemy here, and once it gets a start a canvas tent will rot quickly. Air that tent out frequently—





DON'T STORE a sleeping bag in a compact bundle that impairs circulation and drying. Instead, pack it loosely and air it out when you get home.

or better yet, don't store it in a compact bundle that hinders good circulation.

For repairing canvas, I like to use linen thread, the heavy stuff, waxed thickly with pure bees wax or candle wax. After the repair has been made, drip some liquid wax on the seams and rub it into the overlap. Mosquito netting rips can be sewn up with nylon thread. If the netting is too far gone to repair, you might shop around for some fine-meshed hardware cloth. Hold it in place with heavy-duty industrial tape and sew right through the tape with a curved sailmaker's needle.

See Shoe Repairman

Don't write and ask where to buy a sailmaker's needle, because I don't know. I have one, but for the life of me I can't remember where I got it. If your community still boasts of a real, old-time shoe repairman, I'd bet he knows where one can be purchased. They come in many sizes and are simply heavy, curved needles that are perfect for sewing around corners. Mine is heavy enough to sew through most leather with a little help from a pair of pliers.

If your hiking shoes need maintenance, take them to the cobbler

before the season begins. Many good shoes are thrown away too soon. Just about the time that the uppers are reaching the comfort state, the soles and some stitching begins to wear out. With that heavy needle you can make some minor repairs yourself, but a professional is needed to attach soles and do the interior stitching.

I recently discovered that genuine Vibram soles are available as replacement items and any good shoe repairman knows where to get them. They are not cheap—a resole and heel job will probably run around 15 dollars—but they can turn an old pair of boots into what might be the most comfortable pair you've ever owned. Last year I gave an old pair of hunting shoes a new lease on life by adding the Vibram sole, and am I ever glad I did. The well-worn uppers were far from being worn out, and the heel and toe were perfectly conformed to my over-size foot. However, the soles were glass-smooth, and walking on rough terrain was impossible. The new soles make them good for another three years at least. With good hunting and hiking shoes going for 50 bucks a pair (and up), the repair job will prove a good investment.

Rips and worn places on hiking pants should also be attended to. As with shoes, many serviceable clothing items are tossed away too soon. A worn place on the seat or the knee can be stitched up with a piece of heavy duck or, better yet, a square of buckskin . . . if you have some. Put the heavy stuff on the outside and then line the inside of the knee with a piece of slippery sateen. For walking when it's hot, the reduced friction that comes from the lined patch on the knee seems to make moving easier.

Sateen Lining

An old woodsrunner acquaintance who spent a lifetime walking the Adirondack Mountains always lined his canvas and wool britches with a layer of that smooth sateen. He claimed he was far less tired at the end of the day after walking with the smooth-sliding pants. Makes sense too. If you've ever struggled into a pair of wool pants while wearing long johns, you'll appreciate the value of the slippery lining. (There! Another million dollar idea for some clothing manufacturer to take advantage of!)

Remember that car-box we talked about some issues ago? That was the all-purpose food and emergency cache that we decided would be in the car, station wagon or pickup truck at all times. Well, this is exactly the right time of year to check that "panic" box and replace what you used last season or freshen up the items that may have gone stale or deteriorated. The only items I used out of my car box were a small can of pineapple chunks (eaten on a hot July day near Ralph Stover State Park) and two band-aids (used to protect a bruised elbow).

Sharpen the knife or belt axe you'll be carrying and check your supply of stove fuel and propane. You'll probably get a better buy on this stuff right now than you will during the summer when everyone else finally remembers they need some. Oh yes, mantles for the lantern. Even if the one you attached



CHECK THAT mantle on your lantern. Even if it's in good shape, keep a set of replacements handy on that next camping trip.

last summer still looks good, tie on a new one right now. And be sure to buy an extra pack for replacements, as they'll probably come in handy.

From a purely personal standpoint, it is extremely valuable to write columns like this one. Like most givers of advice, I seldom do what I tell others to do. But putting all this down in print shames me into taking time to make those necessary checks we've been discussing. Last year I didn't take my own advice and decided to leave well enough alone and forget the camping gear once the season had ended. Now I'm paying for it; that sleeping bag still has me upset and I've taken a vow to never let it happen again.

In this bicentennial year, it serves us well to recall one of the popular sayings attributed to that most illustrious Pennsylvanian Ben Franklin: "An ounce of prevention is worth a pound of cure." I never read that old Ben was a camper, but it sure applies to all of us.

Quality Quivers

By Keith C. Schuyler
Photos from the Author



HOMEMADE ADAPTATION of the St. Charles quiver provides complete freedom in brushy areas and protects arrows, yet keeps them readily available.

WITH THE continued accent on carrying *sharp* heads for big game, the hazard that they present to hunters themselves certainly cannot be discounted. And, although there are inherent dangers in any outdoor activities, it follows that the risk in sharp broadheads can be minimized by the use of proper quivers.

There was a time in the early days of the resurgence in bow hunting, that little thought was given to the possibility of injury from arrowheads. That was chiefly because early quivers adapted from those of the American Indians—the conventional over-the-shoulder style which kept arrows safely in a deep pocket slung across the back.

An occasional side, or belt, quiver was seen, but hunters soon discovered

these were impractical. With the fletching at brush level, new feathers were needed after each hunt. Although the over-the-shoulder quiver left much to be desired, it didn't take long for bow hunters to discover why the Indians used it.

If we dig back into antiquity to find out how arrows were carried, early drawings provide few clues. Archers were frequently shown with a bow having an arrow on it, but there was no evidence of where he carried his spares. The first mention of quivers that I could find came from the ancient Egyptians some time between 1700 and 2200 BC. The first general use of quivers appears to have occurred about 1600 BC, when Hyksos, foreigners from the East who subdued all of Egypt, finally departed.

When the Egyptians started using horse-drawn chariots, quivers were slung alongside the chariots. Assyrian rock drawings indicate that some of the ancients actually had arrow bearers comparable to gun bearers so evident in early stories of African safaris. The Assyrians had both over-the-shoulder quivers and quivers which were slung on their chariots. There is some evidence that a covering was provided to protect the fletching from the weather.

Information about people believed to be Iranians gives us another insight into arrow quivers. Many of these people are believed to have been employed by the Greeks about 480 BC as a police force. They sometimes decorated their quivers with the skin of the right forearm and the hand of the slain enemy. This grisly ornament was stretched over the body of the quiver.

There is no clue to quivers in the writings of Roger Ascham, who in 1545 wrote the first definitive work on archery in English. But, from Chaucer's *Canterbury Tales* (late 14th century), there is a quote of how the yeoman carried his arrows: "a sheaf of peacock arrows bright and keen beneath his belt he bore quite thriftily (for he could dress his tackle yeomanly; his arrows did not droop with feathers low), and in his hand he bore a mighty bow."

The word "quiver" comes from the Teutons. Reeds, wood, or leather were used in the making of some of the earliest arrow receptacles. Leather, or skins, were an expected development among the primitives, as these materials were naturally available. Pacific coast Indians made quivers of cedar, and skins of the otter, coyote, and mountain lion were utilized by many tribes.

In early contemporary target shooting it was common to use a long wire with a loop on one end so that the opposite end could be easily stuck into the soft ground as a convenient holder for shafts. When shooting moved indoors, a tubular quiver with a flat base was devised. Then leather side quivers came into being, and they were a much more convenient means of carrying arrows.

No official target round requires more than six arrows now, so large, cumbersome quivers are no longer necessary. Any that will hold the normal need, plus a couple of extras in the event of damage to one or two, is sufficient.

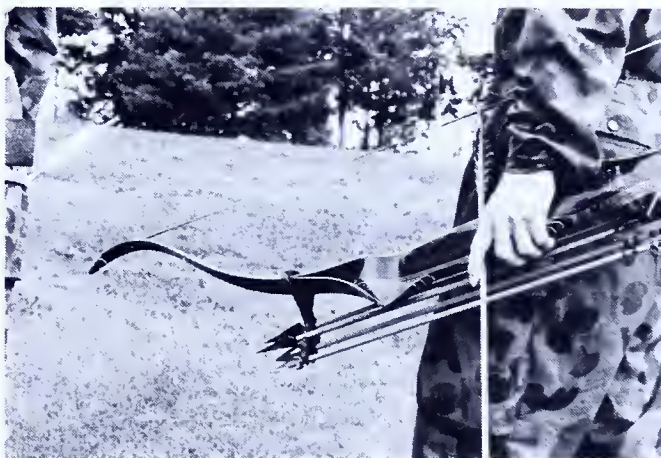
Side quivers became more popular for target shooting as the uncertain groping for arrows in back quivers discouraged their use. Also, there is some hazard to slender aluminum shafts if they bind in the quiver, which frequently fits the contour of the back, as they are withdrawn.

Over-the-Shoulder

The over-the-shoulder quiver was, and still is, used by hunters on solitary stands or when moving stealthily through the woods, but it is not too satisfactory when driving deer. Feathered ends frequently catch on leaves or limbs when the archer ducks under these impediments. Nevertheless, this design still has many practical uses, and some hunters will use no other.

Bow quivers brought on problems that were not evident with any of the old styles. The convenience of having the arrows attached to the bow is undeniable, but early bow quivers provided no means of covering the sharp broadheads. Countless injuries to the bearer

THERE IS NO longer any excuse for exposed arrowheads, as illustrated in this posed photo. These broadheads are sharp, and they can be very dangerous.





FOR USE AT TARGET tournaments, where a maximum of six arrows is needed, belt quivers are the logical choice.

as well as his companions resulted. Less serious, but nevertheless aggravating, was the damage to the upholstery of automobiles and anything else with which the sharp heads came into contact. A real problem was the possibility of cutting the strings on other strung bows when stored with the heads exposed in the back of a station wagon, car, or truck. If this happened in a car where people were sitting, there was considerable danger from bow limbs released from normal tension at the strung position.

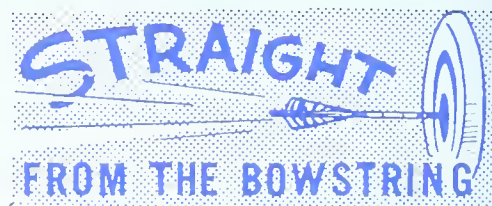
Popularity of the bow quivers, despite their hazards, naturally led inventive minds to come up with something that would do the job, yet be safe. For, in addition to the risk they presented, exposed broadheads coming into contact with other objects had their edges dulled.

One of the first good bow quivers marketed was produced by Bear Archery Co. The first such quivers were merely snapped onto the bow by insulated wire fasteners. If these fasteners slid out onto the working portion of the limbs, they inhibited maximum efficiency. As longer risers, (the handle sections of the bows) came

into being, the snap-on quivers were more easily kept in proper position. Later, such quivers bolted directly to the riser section. Most important, all of these had protective pockets for the broadhead points.

One of the best early bow quivers was that made for the Wing bows. First designs were noisy, but improvements made the quivers both efficient and silent in operation. The only drawback was that they were designed to fit only Wing bows. These too were well constructed and provided positive protection from the broadheads for both the owner and his companions.

Some manufacturers paid scant attention to the need for safety. One example was a company whose annual catalog showed a beautiful color illustration of an archer with a drawn bow that had all broadheads fully exposed. I discreetly suggested in a letter that this



was not in the best interest of bow hunting. An apologetic answer admitted the error and assured me it would not be repeated. Sure enough, the next year a more appropriate illustration was used on the cover. The offensive illustration was moved to the inside pages.

There is absolutely no excuse for anyone to carry exposed broadheads today. Aside from being dangerous to both persons and property, the heads will not remain sharp if continually exposed to the weather and handling of normal use. The only excuse for their continued existence is that they are cheap. One company that has sold many of these quivers does provide a cover, but it is necessary to utilize an arrow shaft to fasten it and this is not a very satisfactory arrangement.

Saint Chuck

Among the more popular quivers today is the St. Charles model, which fits squarely in the center of the back. This does entail reaching around to the rear to obtain a shaft; however, this quiver protects both the fletching and the broadhead from the weather.

One ingenious quiver which incorporates features of both the back quiver and the belt quiver is that made by Arrowmate Products Co. This is a plastic design which attaches to the belt. It keeps the arrow shafts pointed to the rear at an angle, and the protected broadheads are held firmly in place in a rotating holder so that the arrows are readily available.

Introduction of the compound bow and its current popularity as a hunting arm required some new adaptations of the bow quiver. An excellent such quiver, which holds seven arrows, is the Ace In The Hole produced by Jennings for its line of compounds. Six arrows are readily available and there is room for a spare on the reverse side of the quiver, providing the extra arrow which gives the unit its name. Jennings also has the Six Shooter model, which more properly should be called the Five Shooter as it does not carry more than this number well.

The question sometimes arises as to whether a bow quiver will carry enough

arrows. This leads to another question, "How many arrows are needed?"

Four or five hunting arrows should be sufficient for a normal day's hunt. The bow hunter who shoots more than this number at game is simply not shooting well enough or is shooting at distances beyond his ability. I know hunters who feel comfortable with two or three arrows. However, hunters being what they are, there is always a temptation to fling a few arrows at stumps or other targets of opportunity such as groundhogs or raccoons in season. Also, since squirrels and grouse are legal quarry during much of the archery seasons, some bow hunters may wish to carry an extra arrow or two more appropriate for such shooting than the expensive and well-sharpened big-game hunting arrows.

Whatever the need, there is a wide choice of quality quivers today. Ideally, each should hold sufficient arrows for intended purposes. If a bow quiver, it should fit well and be tight enough to avoid undue noise upon release of an arrow; the arrow fasteners should be so arranged that fletching does not extend unduly away from the bow itself.

But, under no circumstances should any quiver for broadheads be considered if it does not provide proper protection for persons and property.

IT IS important that bow quivers be fastened to the riser section, away from the working portion of limbs, especially on short bows.





ITHACA FIELD GRADE double barrel 12-gauge, a family heirloom dating from 1913, is admired by Howard Mortimer, his daughter Carol, and his father Ray.

Gun With a History

By Don Lewis

Photos by Helen Lewis

“**I**’VE DECIDED to put Dad’s old shotgun in first class shape. This is one pump shotgun I know had a full 40 years of service without missing a season. Dad is gone now, but he and I had many a fine hunt and the least I can do is restock and reblue his favorite shotgun. I may as well go all out and have the chamber cut for the 3-inch shell, too,” the middle-aged caller told me as he uncased the pump.

The gun was a genuine surprise for me—one of the very few Remington Model 17 20-gauge pumps I had seen. There was no question the gun had seen plenty of use. The stock was chipped and scarred, and the only blueing left was on the last foot of the barrel.

“Don’t you think I’d be doing the right thing to put his gun back in shape? As far as I can remember, he never used another shotgun, and this

one was his pride and joy. I want it to look brand new since I’m having a special glass case built above the mantle. Naturally, I don’t want to put this unsightly relic in it.”

By the time he had finished, I had shouldered the old pump a dozen times and even took a few aims at imaginary rabbits and grouse. Unlike so many shotguns, this one fit me to the letter. It was still operable, but there was no question that all the parts were worn and loose.

“Do you want me to tell you the truth or just agree with what you’re saying?” I asked.

“I want you to tell me where I can get the work done. That’s why I’ve driven nearly 75 miles.”

A grin spread over my face as I repeated the question, and I could see a blank look on his as he wondered what I was up to.

"Golly sakes, what's so bad about getting an old gun rebuilt? That's what my dad would have wanted even though he seemed to stall each time I brought the subject up. I guess he didn't want me to spend the money."

"Have you ever stopped to think your father may have wanted the gun left as he knew it? Perhaps it was his way of telling you each mark and scar meant something special to him. It took hundreds of hunts to wear off the blueing, and this battered old stock doubtless brought back memories from four decades of hunting."

There was a long silence, and it was plain to see the son was seeing the old pump in a new light. A touch of sorrow crossed his face as he removed the gun from my hands and held it strong and firm. A full minute went by before he spoke.

"I'm really ashamed I never thought the way you put it. I'm sure you're right, and that's why Dad always had something else to talk about when I insisted on having the gun refinished. Once he did speak against lengthening the chamber."

"Well, look at it this way. Do you think a shiny looking shotgun would bring back the same memories of the hunts with your father as the shotgun does now? I doubt this, so my advice would be to keep it as it is and display it with pride in the special glass case. Your father built a hunting reputation with this gun, and each time you look at it you'll find it will add a special significance to the new case."

This strange incident is not a remote one for me. During the years I had a gunshop, I was contacted many times for similar advice. As much compassion as I had for the new owner, I usually gave the same advice as stated in the opening of this article. I'm sure it's human nature to feel as the son did about his father's Model 17. I understand why he felt he should put it into A-1 shape. That would be showing the high degree of respect he had.

All this is fine except it completely misses the point. At first thought, remodeling might seem to be grounds for showing affection, but usually it's

recognized that more satisfaction would be gleaned over the years by leaving an old gun untouched. A friend who feverishly charged through hundreds of crab apple thickets in search of grouse practically cut his stock to pieces. He claims replacing the old, battered stock with a new one would make it a different shotgun.

During the 1930s, it was common practice to modify the Army 30-40 Krag. I can't remember the selling price of the Krag then, but it was almost nothing right after the stock market crash. The long, lanky Krag didn't fit well in the hunting picture when it came to pushing through laurel and thick hemlock, and cutting them down became a passion. Thousands of Krags still exist that met a cruel fate at the hands of a hunter with a hacksaw. This high crime against the Krag was glossed over with the fancy term "sporterizing," but it left the Krag a lot less desirable from a nostalgic point of view. Today, the hunter with the uncut Krag should count his blessings.

Depression Period

I mention the Krag because it was the victim of a depression period, and also because thousands of them were available. Modifying one didn't detract from its ability to perform, and for the most part, the sporterized version was appreciated. The family gun is in a different class. Here, there is just one gun, and it has a very special meaning. Unlike the Krag, it has no popular history that would interest a vast number of hunters. Also, its make, model or original selling price has little significance, as it's not so much its monetary worth but the memories it generates that interest us.

That's why I insist on keeping the gun as received. Any changes automatically take away much of the nostalgic past. There are times, however, when a hunter wants to update a family heirloom for future hunting purposes. I'm all for that, keeping the safety factor in mind, and this usually brings a negative reply when asked about cutting the chamber out to 3 inches.

There is a definite trend towards the



IN YEARS TO COME, Lewis will remember the luck he had this day with little 20-ga. Ithaca SKB, and this gun, now new, will have its place in his memories.

longer chamber, and I'm going to sway from the main theme for a few paragraphs to discuss the merits and pitfalls of the 3-inch chamber. It's an established fact more hunters are yearning for the magnum load, and it has some advantages. Still, there will be little if any change in the game bag with the longer shell. I'm not overlooking the fact a larger shot charge can be used, but under normal conditions the 2-3/4" shell is adequate.

Although shotgun pressures are not as high nor as critical as chamber pressure in a rifle, many old shotguns are not strong enough to handle the extra pressure of today's modern cartridge. I'm not implying the 3-inch shell generates any more pressure than does the shorter one, but it might offer some inducement to build handloads producing maximum pressure.

As far as I'm concerned, only 3-inch shells should be fired in the longer chamber. There is no danger firing the 2-3/4" casing, but there will often be a detrimental effect on pattern consistency.

Chamber length means the total length of the fired case. In other words, a 2-3/4" chamber is completely used when 2-3/4" shell is fired. Since the forcing cone begins at the end of the chamber and tapers to bore size, firing a short shell in a long chamber means the shot charge has to travel a short distance before hitting the forcing cone. When the shot leaves the shell case, it immediately expands to full chamber diameter. This means there will be a severe squeeze on the shot charge entering the forcing cone, deforming more pellets and possibly permitting gases to mix with the shot charge. This could mean a significant pressure loss.

Some shooters believe the chamber should be just a mite shorter than the fired case. With this, the fired case would overlap into the forcing cone, guaranteeing a sure seal against escaping gases. This could be true, but the fallacy with it is that higher chamber pressure could be the end result. Also, particles of the case could break off or be torn loose and adhere to the bore proper. I wouldn't want that in a gun of mine, as barrel bulges would be bound to appear. Another reason I'm against the overlapping case is that today's one-piece plastic shotcup/wad column forms a near-perfect gas seal itself, so there's no need of any case overlap.

Getting back to the vintage outfits, I handled more than one dog-eared double barrel that had been retrieved from an attic or had been part of an estate. Often there was a famous story behind the old shotgun, and the new owner was determined to put it back in hunting condition. I'm sure the fame part was mostly a myth, and much to the chagrin of the owner, my advice never varied. It may have sounded cold and heartless when I advised him to hang it



on the wall and forget about it as a hunting gun. On several occasions my blood temperature was lowered a bit just by the cold look in the eyes of my customer.

Most new owners gave no thoughts to the astronomical costs involved in repairing an old shotgun and seemed to think because the gun was old the cost would be small. I recall an incident where one of these old doubles needed a new hammer and several internal springs. To make a long story short, I acquired a hammer that I milled to fit, but the springs were beyond me and I laid out a fair amount to have them made. When the customer received my bill he was furious. I tried to explain it reflected just the cost of outside work and nothing for the hours I spent working on the hammer. This didn't placate him, and he literally threw the money on the shop floor. I've never had the same affinity for old double barrels since.

Is It Safe?

There is no sure way a hunter or even a competent gunsmith can tell when an old gun is safe. I followed a very simple rule: I classified all of them as unsafe. I gave this advice to a man using a lever action 12-gauge that had been built back in the black powder era. He scoffed at my warning, assuring me he had been firing modern ammo in it for years. The story has a happy ending as he lost only his eyeglasses when the old outfit let go.

It's not hard for me to accept the feelings of well meaning hunters who want to put a family heirloom back in shooting order, but the odds are heavily against a venture such as this. It's not only that new wood and blueing will detract from the history of the old gun, but a safety risk could be involved. A



A VARMINT shooter would find it hard to ask for more than a custom 22-250 Mauser and 15x Lyman Super Targetspot under the Christmas tree.

shotgun that has been idle for many years could have brittle springs and firing pins. If these parts have weakened through age, it's reasonable to assume the entire gun is unsafe.

I suppose it's a matter of personal opinion, but with all the fine guns on the market today, the vintage or antique firearm should remain in that status. As for myself, I would like my offspring to handle my shotgun the way it came from my last hunt. That may be strange reasoning, but that's how I've always thought about the gun with a history.

Valves in the Plumbing

A giraffe plays its forelegs to drink. Because its neck is so long, valves in a giraffe's two jugular veins check the downward rush of blood when the animal lowers its head, thus preventing rupture of blood vessels in the brain.

In the wind

chuck fergus

information writer



A U.S. Environmental Protection Agency official has stated that wastes from large cities could be converted to energy to generate electricity. In large urban areas, it could equal the energy available from 150 million barrels of oil a year. If suitable techniques were developed, solid wastes could be burned to create energy estimated to equal 27 percent of the oil projected to be delivered through the Alaska pipeline.

A recent survey by Louis Harris and Associates indicates that Americans support new energy developments but are not willing to sacrifice the environment to the energy cause. The survey report says the public believes strongly that the U.S. faces a serious energy shortage and supports steps to ease the crisis. But by a 65 to 25 percent margin, those surveyed opposed slowing down the cleanup of air and water pollution to help solve the energy shortage.

Residents in three Nebraska counties have voted to stop taxing themselves for a controversial reclamation project which was to divert water from the Platte River for irrigation and other uses. The project, which never reached construction, would have reduced habitat essential to several species of wildlife. Several studies had also refuted the project's economic justifications.

The National Wildlife Federation has filed suit in U.S. District Court to force the Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers to curb ocean dumping of material dredged from river and harbor bottoms. The suit charges the two government agencies with failing to implement provisions of the Marine Protection, Research, and Sanctuaries Act of 1972, or the "Ocean Dumping Law," that prohibits dumping that degrades or endangers human health and the marine environment.

Migratory bird hunting seasons can now be closed on a temporary, emergency basis if they pose a threat to an endangered or threatened species, according to the Interior Department's Fish and Wildlife Service. Seasons in California have already been closed in three counties because Aleutian Canada geese—an endangered subspecies similar in appearance to the common Canada goose—often stop there during migration and might be shot by mistake. Another example: whooping cranes migrating from Canada to Texas often stop in North Dakota, where sandhill cranes are hunted. Whoopers normally depart long before hunting season begins, but warm weather could delay their migration and put them in North Dakota on opening day of sandhill crane season; under the new policy, sandhill crane hunting could be closed temporarily to protect the whoopers.

More than 1000 acres of wildlife habitat will be lost and hunting opportunities curtailed if an Army Corps of Engineers plan is approved for leasing 1700 acres of public lands at the Clark Hill Reservoir. This land, on the South Carolina-Georgia border, would be used for golf courses, a marina, camping, and private home development.

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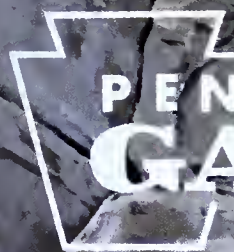


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COVER PAINTING BY NED SMITH

The Meadowcroft Rock Shelter as it probably appeared more than 4000 years ago during the Middle Archaic Epoch (see article on p. 2). Indians of that day did no farming, but lived off the land by hunting and foraging. They made baskets from bark fibers but had not yet learned to make pottery. Here, two men are leaving the shelter on an autumn afternoon to station themselves along a game trail. The woman is scraping the flesh side of a hide, while meat dries over a fire. The men carry spears with flint heads; one waves with his spear-thrower, fitted with antler handle, hook and stone weight. The small hatchet or celt, carried by the other man, is made of a stone blade worked to a fine edge and set into a wooden handle.

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The Female View

IT'S STRANGE HOW THE opinions of people often are different from what they're expected to be. The results of a nationwide gun control survey taken by Decision Making Information, Inc. (see February editorial) are one example. They were almost diametrically opposed to those of certain other pollsters and, perhaps as a result of that, received little publicity in publications which have been conditioned over the years to present only those views which bolster their preconceptions.

Another recent survey is of interest because most of its conclusions also are unexpected. For years, various forms of public communication have told us how women fear guns, how they hold society responsible for creating criminals, and so on, and so on. A short time ago, the General Federation of Women's Clubs, a national organization, surveyed a significant percentage of its 600,000 members as part of a campaign to enlist its membership in a volunteer effort to reduce crime in this country. Some 37,000 women responded. Most were over 40 and of average or greater intelligence and means; few had ever had any direct contact with the criminal justice system, and most were thought to be white. The poll was conducted in more than 500 communities, 60 percent having less than 50,000 population. Results were:

—71 percent blamed the home environment, not society, as the greatest contributor to criminal behavior.

—55 percent said that "gun control laws would have little effect on the crime problem."

—68 percent felt that harsh sentences discourage others from committing crimes.

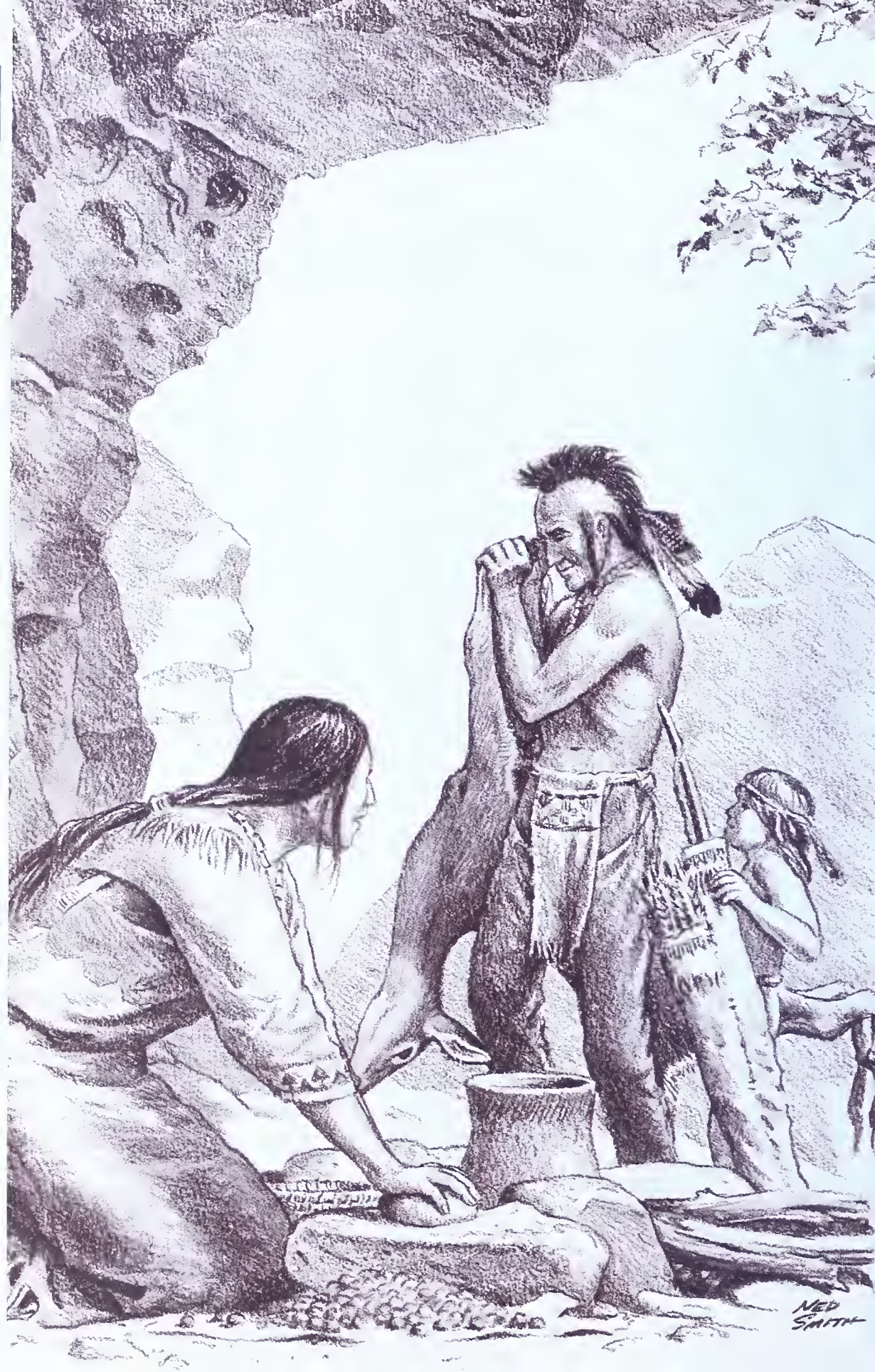
—70 percent felt that the death penalty would reduce crime.

—78 percent felt that prisons fail to rehabilitate criminals.

—82 percent agreed that neighborhoods should welcome community treatment for criminals.

About one-third believed that probation is more effective than prisons and that prison construction should be suspended while other alternatives are explored, over half believed that the poor receive adequate legal advice, and over three-quarters felt there is injustice in the judicial system.

The way we see it, these results clearly show that women have a good understanding of the problems in this country—the real ones such as crime and its causes, as opposed to the phony ones such as guns—and we're glad that someone finally went to the trouble of asking them how they felt. It's hard to understand why this wasn't done sooner. Maybe that would have been too logical, or—more likely—it probably seemed simpler to just put words in their mouths. Any married guy could've told them that wasn't necessary!—*Bob Bell*



NED
SMITH

Over 16,000 Years Ago Humans Were Living and Hunting In What Is Now Southwestern Pennsylvania. Here Is An Up-to-the-Minute Report on the Earliest Firmly Documented Human Habitation in the Entire Western Hemisphere

MEADOWCROFT

Hunting Camp of the Ancients

By Ned Smith

ALBERT MILLER straightened up and looked about with satisfaction. High overhead the sandstone cliff shut out the sky, and beneath the ledge on which he stood the forest sloped down to the bank of Cross Creek. In one dusty hand he held a stick, splintered from digging; in the other a dozen chips of flint-like stone, some ancient animal bones, and some fragmentary mussel shells. At last he knew his hunch was right. Indians *had* lived beneath this overhang. But even Miller had no way of knowing that the most ancient campfires in this part of North America lay buried still deeper in that Pennsylvania hillside west of Pittsburgh.

Albert Miller had long made a hobby of unearthing old things. For many years he studied and collected the antiques that were a part of his western Pennsylvania heritage. Eventually that interest led him and his brother Delvin to establish Meadowcroft Village, a delightful restoration of a 19th century rural village, on the farm near Avella first settled by their great-great grandfather in 1795. He was equally fascinated by the American Indians and over the years had amassed a great collection of artifacts. The dark recess beneath that brooding cliff always had impressed him as a possible Indian campsite, but not until that day in 1969 had he probed the rubble-strewn floor and found the evidence.

Fortunately, Miller knew something about archaeology. He realized that if the Indians had used the site over a

long period of time it would contain what archaeologists call culturally stratified material—debris, including artifacts, that had accumulated in layers, or strata, the oldest on the bottom and successively newer material toward the top. Realizing that unskilled digging could obscure the sequence of occupation and ruin fragile evidence, he stopped when he found those first signs and sought professional help.

An agonizingly long time passed before a qualified archaeologist came to investigate Miller's find, but by the summer of 1973 test holes had proven the site a promising one. Under the direction of James Adovasio, Ph.D., Assistant Professor of Anthropology at the University of Pittsburgh, the site was surveyed, grid lines staked out and excavation begun. With the aid of a crew of 14 students from Pitt, soil was removed bit by bit with trowels to locate evidence of human occupation, then hauled out of the dig and sifted through quarter-inch mesh screens to recover artifacts and bits of rubbish that might have been overlooked. A sample of soil from each square in each level was then mixed with water to recover organic material by flotation. Significant items were carefully cleaned, mapped, labeled and subsequently computerized for future reference, and many were photographed in place.

By the end of the second summer Dr. Adovasio and his crew had penetrated 16 feet into the rubble beneath the overhang, laboriously removing 200 tons of earth and rock,

along with hundreds of thousands of carefully documented artifacts and pieces of human and animal bone. The third summer they excavated 20 more metric tons. The work was tedious and back-breaking, but the exhilarating sensation of taking a trip backward through time was enough reward. Each stroke of the trowel, each clink of metal on stone, each alien stain in the brown soil held the promise of an important discovery.

At Meadowcroft Rock Shelter, as the site was named, the uppermost layers were unexciting—today's beer bottles and candy wrappers, 19th-century buttons and rusty nails. Then the first signs of Indians appeared. Bits of broken pottery, flint flakes, firepits where squaws prepared meals for returning hunters. There were charred grains of corn and squash, no doubt brought there from bottomland gardens. Occasionally a trowel would uncover a small, delicately flaked triangular arrowhead, the refined end product of a flint-working tradition that dated back thousands of years. Bone fragments indicated a taste

for venison and fish; mussel shells were abundant. One skeleton proved to be that of a dog, intentionally buried. These were the Late Woodland Indians, who were finally pushed out by the white man.

As excavation peeled back centuries of rubbish, rockfall, and soil, someone made a chilling discovery. In a refuse pit that contained an assortment of shattered human bones was evidence that pointed to cannibalism.

Foragers, Hunters

Corn no longer appeared in the excavation, for these people pre-dated farming itself in Pennsylvania. They lived on wild foods. Abundant hackberry seeds indicated a fondness for the small but sugary fruits, and lambs-quarters seeds, a source of meal, were common. Cross Creek contributed fish, mussels, and snapping turtles. Even box turtles were eaten. But then, as now, white-tailed deer were apparently the most sought-after wild food.

In still-lower levels were found bone snare triggers, flint knives and scrapers, and heavy stone choppers, possibly for butchering carcasses. Arrowheads were absent, for these people lived before the bow and arrow were known in this part of the world. Instead, the diggers found thin-bladed stone spear or javelin points, with notches for the lashings that once bound them to their shafts. It was becoming apparent that in this period the rock shelter had been used chiefly in the fall as a temporary base for hunting and food gathering expeditions. So far the remains of elk, deer, wolves, cougars, bears and many smaller animals had been recovered.

By this time the crew had scrutinized 2,000 years in the pre-history of the Indian—years that in other parts of the world saw the caravels of Columbus drop anchor off San Salvador, Pompeii destroyed, and Christ nailed to the cross. But the excavations so far were only the beginning. Meadowcroft was to surprise even the archaeologists with its antiquity.

The next level contained 20 firepits

INDIANS of the Late Woodland Period were the last to visit Meadowcroft. Their arrowheads and pottery remains were found in the upper strata.



and nine refuse pits. Animal remains consisted of deer and elk bones, turtle and mussel shells, and an assortment of others. One projectile point—large and broad with a narrowed ovate base—was easily identified. It belonged to the celebrated Adenas, one of the mound-building groups whose earthen structures dotted the Ohio Valley. Some of their burial mounds attained immense proportions and their largest earthworks enclosed areas 500 feet in diameter. Adenas were among the first to make pottery, fine examples of which were among the elaborate grave goods interred with their dead. They wove cloth and fashioned ornaments from copper and polished stone. They were also remarkable for their social, political, technological and ritual organization. For centuries their culture flourished, then quickly and mysteriously died. Meadowcroft was near the edge of the Adenas distribution, and apparently their hunting parties had camped beneath the overhang.

Transitional Period

The Adenas lived during the Early Woodland period. From this stratum the diggers worked their way down to the level of the Transitional Period that bridged the change from the earlier Archaic Epoch, with its lack of ceramic material, to the more recent Woodland cultures, where agriculture and the making of pottery began. Many firepits marked this level, as well as manos (stones for grinding acorns or seeds) and a large number of distinctive spear points. The time of occupation—more than 3,000 years ago.

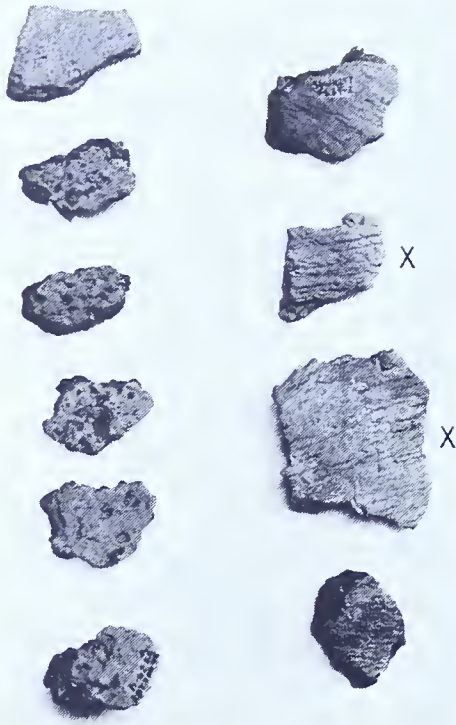
Below this level a major threshold was crossed as the trowels bit into the great Archaic Epoch. In spite of—or because of—their 4000 - 5000 years of existence and the abundant stone artifacts they left behind, there is much to be learned about these Archaic people of pre-ceramic times. In the more than 3,000 years that have passed since they lived here, most of their perishable tools and weapons of bone, antler and wood, their skin clothing, their cordage, and their very bones have disappeared. Most of what we



PALEO-INDIANS, first inhabitants of the New World, crossed the land bridge from Siberia during the Ice Age. Their blade tools were found in the lower stratum.

know of their culture in Pennsylvania has been deduced from stone artifacts. The hope of significant discoveries in the protected environment of the rock shelter permeated the project.

One thing is certain, the Archaic people were hunters—and at Meadowcroft the cracked and charred bones of their deer and elk quarries were recovered in identifiable form. A few projectile points were soon encountered—some the little side-notched types called Brewertons, and other larger stemmed points. All were meant to be lashed to spear shafts. These were commonly hurled with the aid of a spear thrower, or atlatl, a wooden rod with a handle on one end and an antler hook on the other that engaged a socket in the end of the spear's shaft. A stone weight attached to the rod gave added impetus. And it was the Archaic people who invented the peck-and-grind technique of roughly shaping a stone tool by striking its surface with another stone, then smoothing it and



FRAGMENTS of pottery unearthed at Meadowcroft. The two marked with an "X" are from the outsides of pots and show crude decorative markings made with cord.

sharpening its cutting edge, if any, by rubbing it on a more abrasive stone. In this manner they made beautifully formed axes, celts, and bannerstones (spear-thrower weights). Most of the stone artifacts in Pennsylvania collections are from this epoch.

The discovery of a bone awl indicated that other perishable items might survive, but no one was prepared for the next revelation. In the upper third of the stratum a small patch of black material came to light. To Dr. Adovasio's delight it proved to be a fragment of basketry apparently discarded in a campfire. Scarcely recognizable because of age and charring, it was found to be plaited of strips of birch-like bark. Incredibly, three more specimens were found, one a complete basket. Though crushed flat, the latter still held several stones that had been heated in a fire and dropped into the basket to boil water. Apparently, baskets took the place of clay utensils in this pre-pottery

era. A bone chisel and several bone shuttles, presumably basket-making tools, were unearthed nearby. It seems impossible that these fragile materials could have survived interment in a Pennsylvania hillside for 5280 years. Egypt's Great Pyramid of Cheops is but a few centuries older, and it has lost most of its white limestone facing to erosion in that time.

All through the summer of 1973, the students had scraped away the accumulation of the ages, hoisted dirt, sifted and recorded. The following summer they were back, and again in the summer of 1975, eager to continue work. As they looked around the now-familiar site they noted once more that the eastern end was still untouched, buried beneath a boulder as large as a small house that sometime in the distant past had dropped from the roof. There was much speculation concerning the time of its fall and what it might be hiding. But for the time being it is permitted to loom over the busy scene like a blocky sphinx while the pits sink to new depths around its base.

Where will it stop, everybody wonders. How much more is down there? Still the trowels scrape and dig, the pails raise their burdens to the surface. Another basketry fragment is found, surely the oldest in the eastern United States. Toward the downhill side the layer dips steeply, then gives way to a still deeper and older stratum.

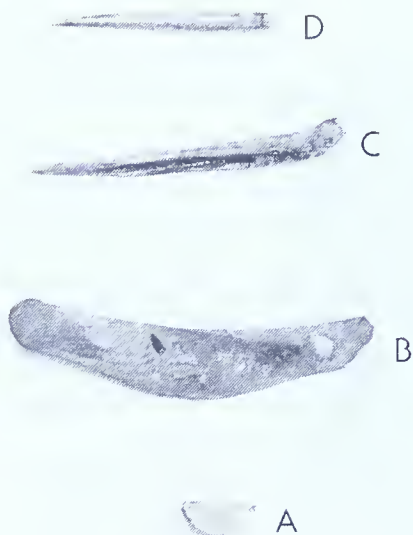
Humans have been here too. There are oval basin-shaped firepits still containing charcoal, and charred nutshells and lambs-quarters seeds. But this layer is different. It bears the stamp of the Paleo-Indian, the most ancient man known to the New World. Strangely, there are no fluted Clovis-type spear points as are found in most Paleo-Indian sites. Instead there are a number of prismatic blades, sharp-edged, roughly parallel-sided flakes struck from a prepared core by a single blow. Quite possibly they are older than the Clovis point itself.

Prismatic blades were used in a number of ways—unretouched for slicing, flaked to a point for piercing, and in some areas set in rows in slotted



ARCHAEOLOGICAL excavation of the Meadowcroft site is shown here in pictures. Students from the University of Pittsburgh painstakingly used hand tools to bring to light artifacts from the past. An antler flaker, shown below, was a sophisticated instrument used in manufacturing stone tools.





BONE FRAGMENTS: A—bone button; B—bone shuttle, used for weaving baskets; C—an awl, used to punch holes in skins for clothing; D—a snare trigger.

wooden cores or shafts to form razor-sharp spear or knife edges. In all, 150 blades and other tools are found—the largest collection of such ancient and securely dated tools in the New World. These were Ice Age people. Even with the evidence before us, it is hard to imagine these people roaming western Pennsylvania, the front of a massive glaciation stalled near the present site of Butler, only 70 miles to the north, while to the northeast mastodons slogged about in the bogs of the Poconos.

At the end of summer, 1975, the workers were ready to close the dig for the year when Dr. Adovasio received the word he had been awaiting from the Smithsonian Institution—corrected radiocarbon dates for organic material from the dig. The results created almost unprecedented reaction in scientific circles around the globe. Overshadowing all else was the announcement that charcoal from the lowest firepits with associated human evidence produced a date of 14,225 B.C. (approximately 16,225 years ago). This makes Meadowcroft Rock Shelter the earliest firmly documented human habitation in the entire Western Hemisphere. Its earliest occupants were contemporaries of the Cro-Magnons who painted bison on the walls of Altamira caves in northern Spain. Aside from the sheer antiquity of the site, this date is significant in supporting the hypothesis that the first humans to set foot on North America crossed the Bering Strait on the land bridge from Siberia more than 30,000 years ago.

Does the story end here? Dr. Adovasio hopes not. Charcoal from a still deeper level produced much older radiocarbon dates, but no artifacts or other evidence of human occupation were located to prove the fires were not of natural origin. Only further excavation will settle the question—and Dr. Adovasio and his group plan to be digging deeper during this summer of 1976. And there's still that untouched area beneath the gigantic boulder that needs looking into . . .

Potter County Turkey Calling Contest

Potter County's third annual turkey calling championship contest will be held on Sunday, May 9, beginning at 2 p.m. at the Potato City Motor Inn on U.S. Route 6, midway between Galeton and Coudersport. Trophies and cash prizes will be awarded in both Pennsylvania and nonresident divisions. Callers may pre-register by contacting Ralph J. Wentz, P.O. Box 117, Ulysses, Pa. 16948 (phone 814-435-2394).



SCOTT HOSSLER, son of author, and hunting buddy Dave Bish work a stubble field for ringnecks and rabbits on a golden autumn day.

The New Hunter's . . .

Graduate School

By Sam Hossler

THE OBLIQUE rays of the late fall sun warmed the hillside as two young hunters, two dogs and myself made our way through the knee-high cover.

"You think ol' Spike will know what to do when he finds a pheasant?" my son Scott asked his buddy Dave Bish.

"You just hit it when it flushes," was Dave's reply as the dogs started into a field we felt sure held some birds. Both boys were grinning. This good-natured kidding had been going on since we had left the car and started our hunt.

Scott was in his second year as a hunter, while Dave had completed two

and was working on this third year. Both boys had taken the Hunter Education course and passed with flying colors. Now they were veterans—well, maybe not veterans but at least enthusiastic and careful beginners.

One of the greatest advancements to come along in the field of sport hunting has been the Hunter Education classes developed by the National Rifle Association and sponsored in Pennsylvania by the Pennsylvania Game Commission. Nothing since the self-contained cartridge has done so much to advance the sport.

The courses we have are well set up



SCOTT shows a woodcock he bagged while enjoying a day afield with a pair of Brittany spaniels. Hunting with dogs adds to the sport.

and everyone enrolled receives the basics of safety and firearms handling. I have found, however, that education if not kept in repetitive use soon becomes a dim blur in the memory. Good hunting habits and field manners can be demonstrated in the classroom and written tests passed with all the questions answered correctly, but if this information is not put to practical use the classroom time spent will have been in vain.

Who's responsible, then, for graduate school education, the sort that's needed to keep the lessons learned in the classroom alive and growing? The best teacher is experience, and that means us—the senior hunters. Each of us should ask himself a simple question: "How many times have I put myself out to take a youngster into the field?" It's not easy to pass up a day with your longtime hunting buddies, but the time couldn't be better or more enjoyably spent than with a prospective member of tomorrow's hunting fraternity, encouraging

and showing him the many little things you have learned over the years. This is where lasting hunting habits are formed.

In Pennsylvania you needn't be the youngster's father, mother or guardian any longer to enjoy a day hunting with him—or her. Now if you have a valid Pennsylvania hunting license and are 18 years or older, you may supervise youngsters in the field.

Sons, Daughters

Many of us have sons or daughters that we take regularly with us, but aren't there times we could also take a friend of theirs along to enjoy some time in the field with the dogs and maybe bring back a pheasant or rabbit? Many youngsters would love to get outdoors but for one reason or another have little opportunity. Most parents, knowing their offsprings' desire to go hunting, have no objection to their going with a responsible person and would be grateful for an invitation. If we want to perpetuate our sport, love of the outdoors must be nurtured in the young.

The hunt I started to tell you about in the beginning of this article started when Dave's dad came down with the flu. I knew Dave had gotten a retriever pup, and in checking on how the flu bug was coming along I asked how Spike was doing on birds. "Not so well," was the answer, "he hasn't been out in the field yet, and since I'm laid up it doesn't look like either Dave or Spike is going to get much time in the woods this season."

"How about this afternoon?" I asked Dave. "Scott and I will be down for you and Spike in about an hour."

"That'll be great," the youngster exclaimed, eager for a chance to get out in the field.

Dave had completed the dog's yard training, as much as it can be completed at that age, but had never worked him in the field. We took my Brittany and his dog out together, more as an experiment than anything else, and were pleasantly surprised at how well Spike did. After his first few playful puppy antics were rebuked by my

dog, Spike settled down to work with his master and performed very creditably.

It wasn't long before my Brittany picked up a scent and began working it out in the weed field we were covering. Suddenly, beating wings shook the warm November afternoon and the cackle of a flushed pheasant snapped everyone to attention.

"It's a rooster!" I yelled as the bird launched itself into the air 30 yards ahead of us.

No sooner were the words out of my mouth than birds started boiling out of the tall grass in every direction. When it was all over, three ringnecks and two hens had flushed—and not a feather was touched. I had been so busy shouting instructions and following the flight of the birds that I hadn't fired a shot, but my two young partners had. It was a good lesson for us all.

The dog had been working on the bird scent and we hadn't paid enough attention to him or kept up as we should have. Then the birds had gotten trapped between us and the Brittany which was coming in from the opposite

BRITT seems to be telling its master to get goin' and kick on through this patch of cover. Who knows, a rabbit might be behind the next weed stalk!



BUCK-RUBBED sapling may mean nothing to a youngster if no one explains it to him. An afternoon in the field is a big thing to most young people.

direction. Between the three of us and Spike on one side and a dog with a bell on the other, they flushed before we had a point.

Trying to follow the flight of one of the ringnecks, we headed for the upper end of the field. This proved futile, however, as the dogs couldn't pick up any scent whatsoever. I had marked a bird down on the other side of a small creek and bramble patch, so we headed around in that direction.

Not wanting to stomp directly in at the bird, which was spooked enough already, we swung around the hillside to sweep in from the flank. It took perhaps 20 minutes before we ended up near the place I had last seen the rooster. Spike was interested in the new and exciting smells he was picking up in the grass, but he couldn't quite work out what happened. The Brittany hit the hot trail and took off through the chest-high dried weeds, breaking out into a small grassy clearing and freezing on point. Eyes bulging and body quivering, he was telling us that the bird was just ahead. Spike, seeing his bracemate standing there, decided it was time to play and went bounding over. He hadn't made two jumps through the brown, crackly stalks before a bright-colored long-tailed form rocketed skyward. This time both boys' scatter-guns moved up as one, and at the boom-

boom down dropped our only bird of the day.

Dave and Spike were out with us a few more times before the season ended, and both boy and dog picked up more knowledge each trip. I think we have another bird dog man in the making.

Breaking safety rules is probably the most common violation in hunting today, and not always is the hunter conscious of what he has done. However, with a youngster at your side, every movement is watched and you in turn must watch every movement you make. How do you cross a fence, load your gun or do any one of the hundreds of things taken for granted in a day's time? Knowing we must constantly set an example for a youngster makes us better hunters too.

Safety isn't the only thing that can be

taught. How about all the little interesting tidbits of outdoor lure you have picked up over the years? These can be passed on a little at a time. Has that youngster ever seen the way a tree can be girdled by a porcupine, the distinctive shape of a Baltimore oriole nest hanging from a bush, or the way a buck rubs a small sapling when cleaning the velvet from his antlers? Does he recognize common animal tracks in the snow? Game trails, and what they mean, can be pointed out, as well the way to tell a fresh track from an older one in the snow. These and countless other things are what makes the sport of hunting interesting and enjoyable. The lure and love of the woods is born in most of us, but without some knowledge and understanding of nature it may lie buried in the inner-soul forever.

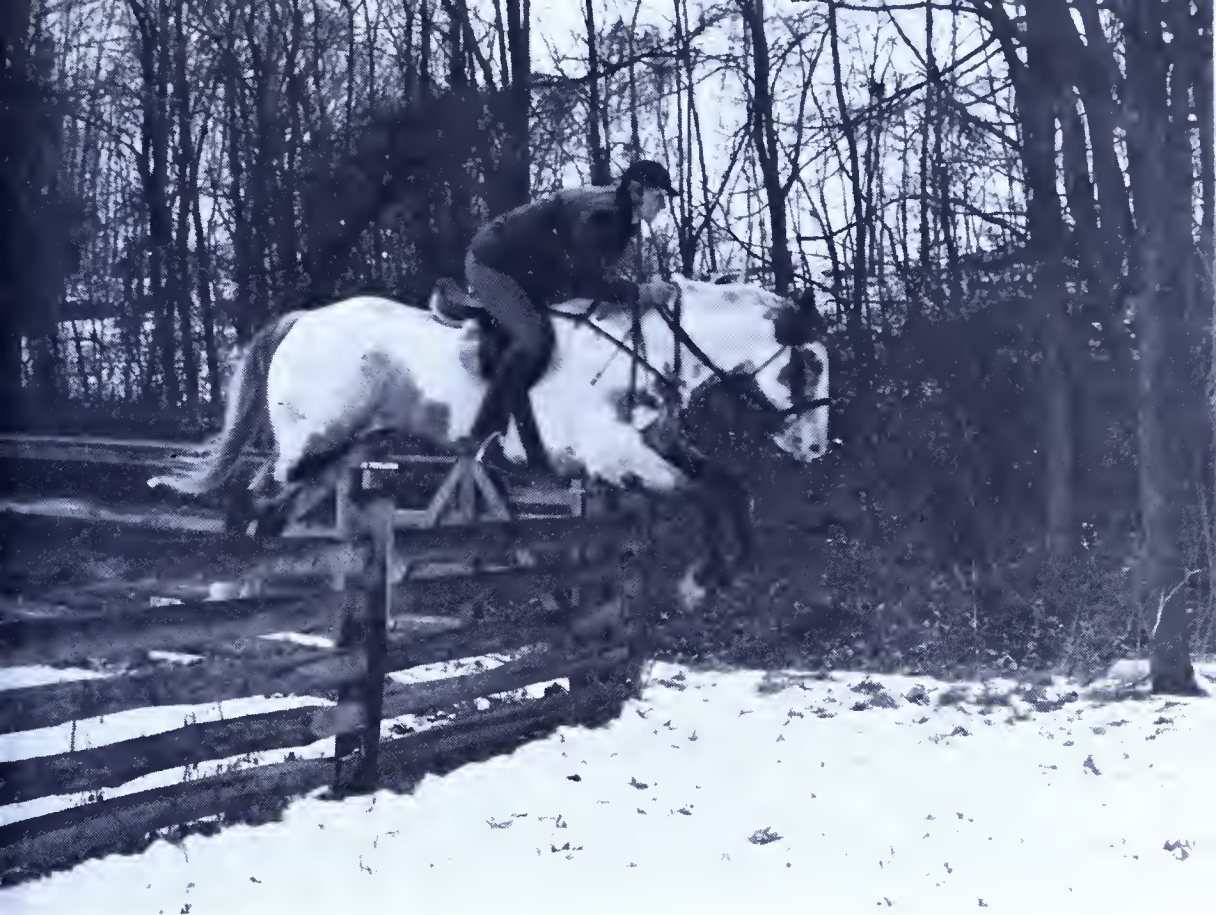
Book Review . . .

The Modern Rifle

For some years now, Jim Carmichel has been gun editor of "Outdoor Life." Before that he contributed regularly to most of the gun magazines. He has hunted throughout North America, in Europe, Asia, Africa, Australia, New Zealand and elsewhere, and he's been a competitive rifleman for decades. This background makes it possible for him to give an up-to-date look at today's hunting rifles—all the basic designs—with comments on their performances as big game, varmint or target outfits. He also covers cartridges, scopes, reticles, stocks, bedding, triggers and related subjects, with some observations on custom metalsmithing, stocks and engraving. This is good information from an experienced rifleman whose ideas do not always conform to those of older gunwriters. Perhaps progress is being made. We can't help wishing, though, that Carmichel would have let himself go technically even deeper into some of the aspects of the subject—basic action design, rifling techniques, the mechanics of triggers, etc.—as he obviously knows much more than he tells in places. Maybe the publisher felt the average reader wouldn't care, maybe the manuscript was already on the long side, or maybe—hopefully—a more in-depth treatment of fewer subjects is in the offing. (*The Modern Rifle*, by Jim Carmichel, Winchester Press, 205 E. 42nd St., New York City 10017, 342 pp., \$12.95.)

Moisture Extractor

In arid regions of the American West, the chipmunk has adapted to living without drinking water for months at a time. The little animal extracts moisture from succulent green plants and from the starch of seeds.



FOXHUNTERS pursue their sport for a variety of reasons, some of which, like jumping fences on horseback, are easily understood.

The Music of the Running Hounds

By Chuck Fergus

Game News Staff Writer

*D'ye ken John Peel, with his coat so gray?
D'ye ken John Peel, at the break of the day?
D'ye ken John Peel, when he's far, far away,
With his hounds and his horn in the morning?*

THE SONG of John Peel tells the story of an English foxhunter of the early 1800s. Peel rode to his hounds over the rugged Fells of Cumberland along the Scottish border and, according to the song, was no red-coated society figure—just a country gentleman who enjoyed chasing foxes, seeing the outdoors from the back of a horse and listening to good hound music.

Today, this sort of hunt still occurs in Chester County and other parts of southeastern Pennsylvania. On just about any day in season, the woodlots, hedgerows and bottomlands are likely to ring with the tonguing of hounds: booming bawls, high chops, excited warbling contraltos, hunting voices which from far, far away sound like lilt-ing organ notes.

Accompanying the hounds are horse-mounted foxhunters who, like old John Peel, are not likely to be redcoats. Of the 60 foxhunting packs maintained in



TODD ADDIS, Chester County veterinarian, loading his horse into van in preparation for a day's hunting. Truck is a converted furniture van.

Chester County, only six are registered with the American Foxhunters Association, and only these six hunts have riders who always wear the traditional red; most of the Chester County foxhunters simply dress for the weather.

Dr. Todd Addis, who provided much of the information contained in this article, explained the major differences between the registered hunts and the smaller independent packs. Addis is a veterinarian who lives near the town of Elverson, and he owns a pack of over 50 foxhounds.

"The registered or recognized packs tend to be more traditional," he said. "These packs must abide by established rules and regulations, and restrict their hunting to a prescribed territory set forth by the Master of Fox-Hounds Association. The more affluent people ride with the recognized packs, of which there are 12 in Pennsylvania. Their formal hunting attire of pink coats, derbys and high silk hats attracts the attention of the society pages.

"My pack, along with most of the others in the area, is independent. I'm neither registered nor restricted to hunting one territory, although I generally hunt the northern part of the county."

Addis hunts twice a week, with 15 to 30 or more riders following his hounds. The men and women who ride behind

Addis's pack are not affluent socialites, but are farmers, industrial workers, realtors, bank tellers, housewives and others. And they really enjoy their sport.

Foxhunting has long been popular here and is one of the most traditional types of hunting practiced in the United States. Begun in England in the late 1600s, foxhunting was brought to the New World by early settlers, particularly the plantation owners of the Southern colonies.

American Tradition

But traditions become molded to surroundings, and the American foxhound and American foxhunting developed much differently from their English counterparts. In the colonies the climate was drier and the terrain rougher, requiring keen-nosed, strong, raw-boned hounds. Also, foxes were more abundant back in England, where intensive agriculture and plentiful game and rodents made for high fox populations; with far fewer foxes available for hunting, the American version of the sport evolved to emphasize the chase rather than to reduce the fox

DR. ADDIS'S hounds head for the van, all set for the hunt. Addis maintains a pack of over 50 foxhounds, housing them in his barn.





CAR FOLLOWERS do not ride to the hounds, but they enjoy the chase from their cars. Many times they spot the fox running well ahead of the pack.

population. Dr. Addis says the Chester County foxhunters he knows never kill foxes, preferring to let them live so they can be chased again.

So two centuries ago, wealthy colonists wore those same red coats and hunted red foxes, many of which were brought over from England. But in addition to those redcoats were the legions of not-so-wealthy men who also hunted foxes—men whose hounds were named Rattler and Lead and Lightfoot, men who rode horseback or muleback or hunted on foot.

So the tradition is now quite American, hanging on despite 20th-century pressures.

How do the Chester County houndsmen hunt? Most packs in the county have 20 or fewer foxhounds, usually of a strain called Penn-Mary-Del (short for Pennsylvania-Maryland-Delaware, where the line was developed). Addis's foxhounds are clean-cut and rangy, with bodies built for the hunt. Most foxhunters try to breed hounds with lots of voice and

white coloring, as these make them easier to hear and see under most field conditions.

The hounds have a tremendous pack instinct. Unlike a solitary coon hound—which learns to range far and wide hunting on its own—a foxhound must stay with its fellows and run as one of a team. That pack instinct, reinforced by rigorous training, produces hounds that rarely tongue on deer, rabbits or pheasants, but follow a fox line with style.

The Quarry

The other half of foxhunting's canine element is, of course, the fox. In Chester County, foxes are never "dropped," or released, in front of a pack; instead, huntsmen take their hounds to areas foxes are known to frequent and try to pick up trails there. Foxhunters get to know individual foxes, where they lay up, where they usually hunt, what the local population is like. When a huntsman says, "There used to be an old dog fox that liked to



CHESTER County foxhunters on a rainy, cold January day. These riders are dressed for the weather, rather than for the newspaper's society pages.

lay up on that hill, and sometimes he'd be in that little swamp, but he's gone now" . . . well, you believe him.

Houndsmen prefer red to gray foxes. When chased, a gray is apt to pop into the nearest cave or woodchuck burrow, producing a short unexciting chase. A red fox, on the other hand, runs better, often traveling several miles and testing hounds and riders with a series of intricate intelligent moves designed to elude the pursuers. Some old and wary reds have used tricks such as walking rail fences, rolling in cow or sheep dung to disguise their scent, or running along railroad rails, where the scent doesn't stick.

A huntsman, who may be the owner of a pack, is in charge of a hunt. He rides close to the pack while the hounds cast about for a fox's scent. If the terrain allows, the pack strings out on either side of the huntsman. A rider called a "whipper-in" goes ahead on one side where he or she can see in front of the hounds in case a fox is pushed out; often two whippers-in are used, one on each

side, as they also help keep the hounds together. The field—the group of riders who follow the pack—sticks as close as possible to the hounds, usually staying on paths cut through the woods, trails, roads and along the edges of planted fields or thick woodlots.

The huntsman must stay right with the hounds, so he goes through the brush and briars. Huntsmen and other riders wear heavy trousers and high leather boots to shield their legs, and they leave their horses unclipped across the chest, forelegs and flanks to provide a heavy protective layer of hair.

The huntsman continually hoots, yells or blows his hunting horn as he rides. This keeps the hounds together and gets the fox up and moving ahead of the pack. When a fox is sighted, or when the hounds get their noses full of scent, the chase begins. Scenting conditions are affected by the weather. Extremely cold or dry, dusty weather makes scenting difficult; the best conditions are damp ground with rising or at least steady temperatures. This causes the scent to hang in the air and lets the pack follow in high gear and full tongue, with few puzzling checks when hounds are forced to unravel a sudden change in direction of the quarry's scent trail.

Hunts start at different times of day, depending on the season and weather. In early autumn (the "cubhunting" period, when many chases are on immature foxes, referred to as cubs), activity starts at dawn because it often gets too hot for hunting by mid-morning. This is the training period for pups, when the huntsman often walks with the pack to keep close control over his younger dogs.

As temperatures fall in late October and November, hunting activities pick up. Most hunts hold a formal opening meet; by this time, hound training is over and many crops have been picked. In October, hunts begin around 9 a.m.

By winter, when fox populations have been considerably reduced by dispersal of young, highway kills, hunting, trapping, etc., foxhunters often combine their packs. This way, daily hunting pressure on the same fox can be



BEAGLES and foxhunter's gear—heavy boots designed to protect legs from briars, hard hat, hunting horn and whip.

avoided, thus making the animal more apt to stay in the area. Combined hunts are fun too, because old friends get together and enjoy each others' company, swap tales about past hunts, compare hounds, and see which dogs strike lines first and stay in the lead. Hounds trail in snow, often fairly well if temperatures are rising, but crusted snow may force the riders to leave horses at home and follow the hounds in Jeeps and trucks, staying on the roads and listening to the music ring over the frozen ground.

Addis says that foxes rarely die during the Chester County chases. The hounds can't catch a fox unless it tries to double back through a pack or makes a similar mistake, and the foxhunters kill only mangy or diseased foxes. Most likely, foxes view the chase as a minor annoyance—some hunters even speculate that a wise old red enjoys leading the hounds about the countryside before giving them the slip.

The length of a chase is determined by how long the fox feels like running and when it decides to go to earth, which depends on whether the fox is young or old, a red or a gray, and what

the scenting conditions are like. Foxes are never released before hounds for several reasons. First, they wouldn't know escape routes and likely would be caught and killed. Second, they might hightail it through populated areas, which would cause bad publicity for hunting in general and foxhunting in particular. Third, they would probably cross roads.

And roads are as dangerous to a foxhunting pack as an outbreak of canine distemper. Addis shudders when he remembers the time two years ago when his hounds crossed the Pennsylvania Turnpike—Interstate 76—hot on a fox trail. Miraculously, none were hit in that episode, but every year some hounds are struck and killed by cars in the area.

Maintaining a pack of hounds can be fairly simple, as in the case of a farmer who hunts his own and adjoining properties and keeps a half-dozen or so hounds in a pen behind the barn. Or it can get almost as complex as an army's logistics plan, depending on how many hounds must be housed and fed. Addis keeps his 55 hounds in a large pen in his barn, with a door leading to a

fenced-in area where they can exercise. He says dry dogfood would cost close to \$5000 a year to feed his pack, so he buys guts, stomachs and throw-away scraps from a local slaughterhouse, loading the back of his pickup two or three times a week.

Horses require care and housing too. In his spare time, Addis grows food for his animals on the land surrounding his home; other foxhunters must buy feed for their horses. Transportation is another problem. Addis remodeled a used furniture truck to haul his horses and hounds, a lot cheaper than trying to scrape together \$20,000 or more for a custom van.

So why, if it's so expensive and so complicated, do the foxhunters hunt?

Probably for the chance to see a fox, tail back, black ears slanted, a red streak across a brown field. And to dig in and unleash the power of a horse, jumping fences and creeks, ramming thickets, seeing the steam rise off the animal's neck on the cold days. And to watch dogs working with a drive so strong and single-minded it almost scares you. And finally, to hear the music.

Those who ride aren't the only ones who appreciate the hunt: car followers drive back roads with their windows down, following the pack's musical progress. Often retired, these older persons like to congregate on a knoll for a smoke or chew, eyes alert for a glimpse of the fox.

"We're concerned about small game hunters who try to kill every fox they see," Addis says. "Many people still hold the notion that the fox is killing all the game. This just isn't true." (See May, 1975 GAME NEWS article "Of Prey and Predators," which examines this controversial issue.)

Of greater importance to a shortage of foxes would be farming methods practiced in the fertile southeastern counties. Here, farmers often put every possible square foot of land into production. Fencerows, swampy ground and brushy slopes that once supported many prey animals—rabbits, pheasants, mice, other rodents, birds—are now under cultivation. This reduces

both food and cover, so the fox population has dropped. Foxhunting farmers don't use such methods; in fact, they may actually encourage foxes to stay in an area by dragging dead poultry to woodlots on their farms, providing free and easy meals to keep foxes in the area.

Another problem is continual encroachment by civilization. Houses are springing up all over the countryside, new roads are being built, dams to create public water supplies are under construction—all taking once-rural land and crowding out wildlife. And the foxhunters, although able to transport hounds and horses farther away, are reluctant to move. Establishing a new hunting territory means getting permission to hunt from local landowners, learning a new terrain, finding where the roads are and where hounds might be in danger, and discovering where the foxes run. So the foxhunters remain and try to make do.

Faced with problems like these, foxhunters have begun to band together. Dr. Addis is president of the Chester County Foxhunters Association; the organization draws over 1500 members from southeastern Pennsylvania, including foxhunters, car followers and others interested in the sport. The association wants to make the public aware of what their version of foxhunting is all about and to ensure that this traditional American sport remains on the Chester County scene for a long time to come.

Addis recognizes habitat change and suburban development as the biggest long-range threats, and he worries that the not-so-distant future will bring new limitations to his sport. But he loves the hunt too much to give up and would probably change his style to adapt.

"I'd hate to see things change," he told me as he stared out the window at the barn where he keeps his hounds and horses. He ruffled the fur on the neck of one of his son's beagles. "But I guess if things got too bad, I'd still have these rabbit dogs."

And then he'd still be able to listen to the music of the running hounds—a quieter music, but music nevertheless.

Great Day In The Morning!

By Al Shimmel

SOME IMPRESSIONS are indelible. I, like many others, find that first impressions, and those of an unusual nature, are the most vivid. Like the time, many years ago, that I stood with Dad, listening to the bugle of old Tink as he unraveled a maze of scent in a patch of greenbriars. It would be another year before I was old enough for a hunting license, but I remember the drumming of my pulse as the chase turned in our direction. Dad shifted the double 12. I could see his body tense slightly.

Instead of the expected bunny, a big red fox burst from the cover and raced toward the shelter of the woods. I was not aware of the blast of the gun, but I have a vivid recollection of the scene as the fox pitched forward. The big, white-tipped brush thrashed twice and then was still.

"Great day in the morning!" Dad's voice showed his amazement and pride as he picked up the prize and stroked the dark, prime pelt. "Do you want to carry him?"

Dad Smiled

Did I! That would be like Christmas and the Fourth-of-July rolled into one for me. Dad smiled as I slung the fox over my shoulder. Its brush tickled my neck and the strong, musky animal scent filled my nose. It was not until that moment that we became aware of old Tink still bawling cottontail in the thicket. A moment later the bunny poked its nose out of the tangle and again the 12-gauge roared, but to me this kill was an anti-climax. We field-dressed the rabbit and turned eagerly down the hill to show off our prize to Mom and my younger brothers.

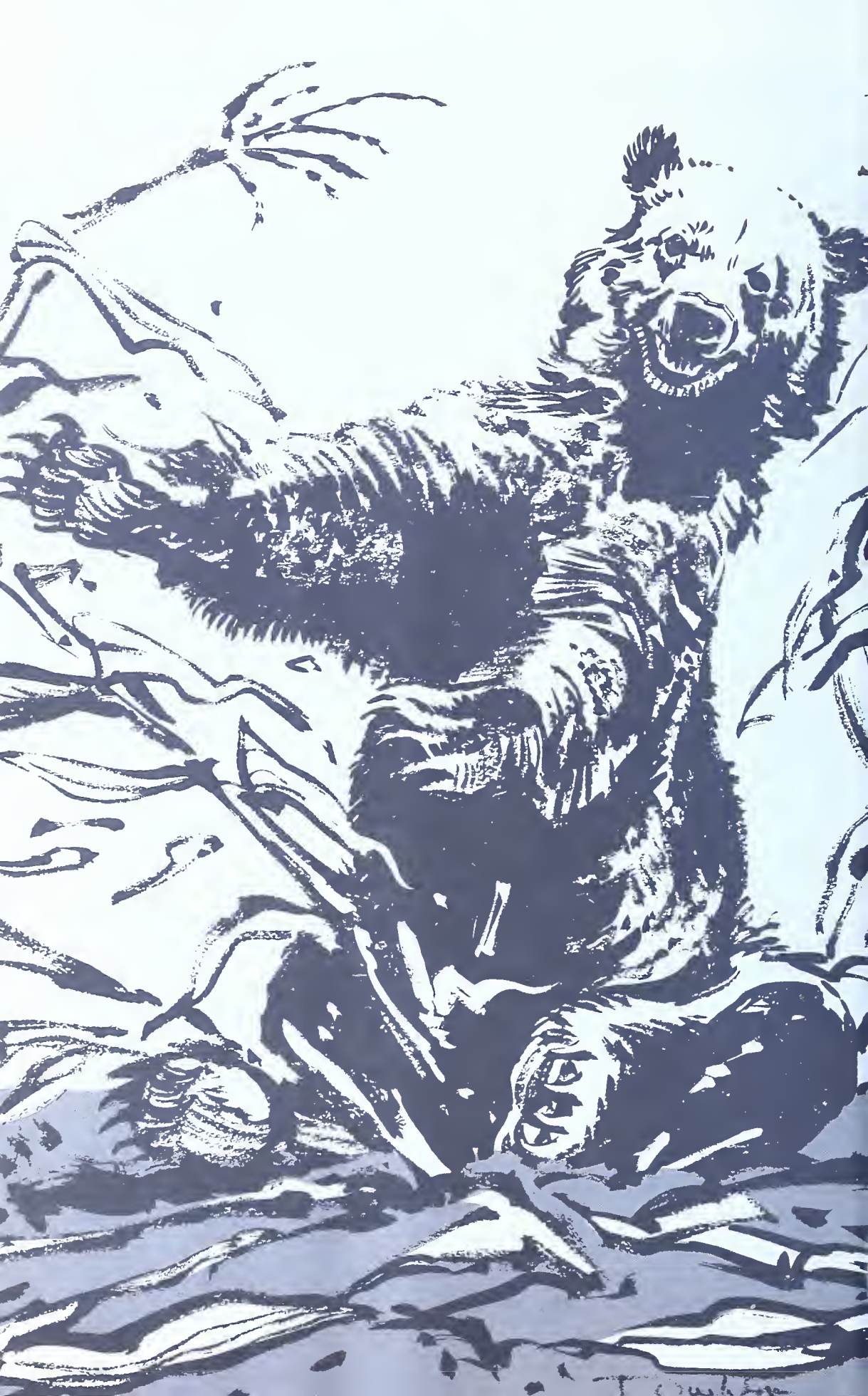
The memory of that morning's experience still pushes my pulse up a few beats, even though more than half a century has passed. Small wonder that my father's "Great day in the morning!" became a working expression that



A HAWK flashed down the slope, skimming close to the ground, headed straight for the luckless cottontail playing in the grass.

comes to mind automatically when the unexpected experience is mine.

The duff under the pines was like a soggy sponge from recent rains, and I was able to move in comparative silence. At the edge of the planting where the hill sloped away toward the bench below, I paused. Several deer were moving up the slope in my direction. I could see an old doe flanked by her twin fawns of the year, followed by a buck. He carried a beautifully balanced 8-point rack. The beams were a good inch-and-a-half in diameter above the burr. They were still dark in color, blending well with the brownish-gray coats of the herd.



Noses and ears alert, they stood for some time partly hidden by brush. Then they moved purposefully up to the edge of the pines, where again they paused for long minutes. Satisfied that no danger threatened, they dropped their heads and began to feed on the *Amanita* mushrooms that grew in abundance under the pines. Their preference for this food was evident in the fact that they had passed through a cutting where there was abundant tender browse and then under a stand of mature oaks where the ground was littered with acorn mast.

Amanita muscaria grows by preference in ground shaded by spruce and pine. Deer do not have a gall and therefore can eat poisonous mushrooms and laurel leaves with impunity. Uninformed, so-called experts who say that any mushroom consumed by an animal is safe for a human is in error. To have faith in such a fable can lead to serious if not disastrous results.

I had gone to one of my favorite stands at dawn, a practice that allows the silent watcher many intimate glimpses into the lives of the wildlife community. On this particular morning the woods was a flurry of activity. The combination of an approaching storm front and the beginning of the autumn urge to migrate disrupted all routine activities and made even the permanent residents restless.

The slope faced south and west and was forested with a mixture of mature hickory and oak, with an occasional pine pushing its green spire high to find its place in the sun. My seat was at the foot of one of these giants, and commanded a good view of the clearing. There were the crumbling stones of a cellar hole, a few misshapen trees left from an ancient apple orchard, and parts of stone walls that once had been a spring house. The brook flowed from the spring and down the slope past a scattering of stones that had once been a barn wall. It passed between two rectangles of dressed stone that, in years long gone, supported a watering trough. While much of the clearing was fast returning to nature, there were a

few openings where grass and clover waged a losing battle against the wildings. Below the barn wall a partly uprooted apple tree drew enough sustenance from the soil to produce some scrubby apples.

Only minutes after I seated myself, three deer came from the woods and began to feed on the windfalls. Two were bucks and the third a mature doe. The racks of the bucks were clear of velvet and their urge to combat was beginning. Occasionally, they paused in their feeding and sparred playfully, as if in practice for the serious combats that would come later in the season. The doe, on the other hand, fed with a total lack of concern for the activities of her escorts.

Cottontail at Play

A movement in one of the grass plots caught my eye. A young cottontail, barely a quarter-grown, lay flattened to the ground, feeding hastily on a clump of clover. Suddenly it jumped high in the air, then dodged and leaped about the clearing. My first thought was that it was startled, but when the performance was repeated I decided that it was indulging in playful exercise. Between periods of activity, it crouched motionless, ears laid back, and thus became a neutral-colored bump on the landscape. Again and again, the routine of feeding, play and stillness was repeated. I became so absorbed in its behavior that when I turned once more toward the apple tree, the deer had disappeared.

I glanced back toward the cottontail. A jay screamed and a hawk flashed down the slope, skimming close to the ground. With the precision of a bullet, it homed in on the luckless animal. I saw the feet extend and the sharp talons strike; there was a piercing scream. Death was instantaneous. The momentum of the strike carried the hunter and its prey a yard or so beyond the spot where the cottontail had been feeding only seconds before. The hawk shielded its quarry under half-spread wings, its head moving from side to side as if in challenge. The slate back, barred tail and dark crown above a



FEMALE raccoon and her young gorging on wild grapes. Fox grapes have a rich purple pulp and a pleasing semi-sweet taste—to both man and beast.

lighter breast were the unmistakable marks of a Cooper's hawk. Satisfied that all was clear, it carried its quarry a few yards to the mound of earth formed by the heaving of the apple tree roots. It opened its prey at the soft underbelly, then it bolted chunks of the meat.

I raised my glasses for a closer view, but even at the distance of over 50 yards the hawk caught the slight movement and was away, carrying its dinner in its talons.

I walked down to examine the feeding perch. Only a few tufts of fur and some bloodstains on the moss were evidence of the tragedy.

The wood lot sits astride a hill that separates two tracts of land that once were prosperous farms. The acres are no longer under the plow but are divided into plots used to pasture beef cattle. The fields nearest the woods are planted to clover and timothy, which is harvested for winter hay. East of the fields the timber has been harvested and has grown again to pole stage. Grapevines climb among the crowns with such density as to shade out normal undergrowth.

On a late September afternoon I followed a deer trail from the high ridge

to the point beyond the woodlot. My purpose was to check the mast crop and possibly gather some wild grapes. Several vines of fox grapes grew in the corner between the woodlot and the field. Fox grapes are almost twice the size of the frost grape and have a rich purple pulp with a pleasing, semi-sweet taste that is a pleasant change from the cultivated varieties. Like so many other products of the wild, it makes superior jelly and juice. *Vitis labrusca* is supposedly the parent from which the cultivated varieties Isabella, Concord and Catawba have been derived.

Wild creatures show a preference for these grapes. Raccoons, grouse, songbirds and squirrels strip the vines as soon as the fruit is ripe. Once I surprised a female raccoon and her three young gorging on the fruit. They had been carelessly greedy; the leaves under the vines were spattered and stained. Another year I was a few days late and found to my chagrin that the vines had been pulled down and the grapes were gone. Claw marks on the trees showed that the culprit was a bear.

The grapes lacked a few days of perfection. I tasted a cluster and then moved to the edge of the woodlot where I could see the pasture, the grape thicket and the timber all at the same time.

Not far away a fat old woodchuck sat up and studied the lower pasture where the cattle were grazing. This grizzled veteran had found that danger usually came from that direction and was taking no chances. It did not once turn in my direction. When it dropped to feed, it was entirely hidden.

Suddenly it sat up again and turned in the direction of the woods. I was surprised to see a flock of turkeys emerge from the timber. They stood for some time surveying the field, then fanned out in a ragged skirmish line and began to move through the grass. I was puzzled until I noticed individual turkeys running ahead to pick things up. It became clear they were flushing grasshoppers and picking them from the grass. For the first time, I witnessed a

flock of turkeys in a cooperative effort. The flock worked the length of the field, and then turned and moved uphill into the timber. There were twelve birds, probably a hen and her brood of the year.

Dove hunting in the hills is not the fast and furious shooting that is found in the pea and millet fields of the deep South. Here there are few population concentrations of birds. Where the mechanical picker has made the harvest I find singles, pairs and, on rare occasions, groups of a half-dozen birds. The season, which opens in September, is an excuse to be afield and to sharpen reflexes for the opening of woodcock and grouse seasons. Doves, long protected as songbirds, have not had the benefit of tradition and are hunted seriously by only a few of the hill residents.

A young and enterprising local farmer leased a considerable acreage of once prosperous farms and returned them to cultivation, growing corn and oats to feed his cattle. These fields are attractive to game, drawing creatures like magnets from the surrounding timber. By virtue of a long-standing acquaintance, I have permission to hunt the crop land.

Fruitless Hour

It was early afternoon when I drove up the lane and parked near one of the fields. I had spent a fruitless hour on a stubble field just over the ridge, but here my prospects were better because of a nearby pond where the birds watered and a strip mine reforested to pines where they nested.

I uncased my gun, closed the car door and walked a few yards through the timber to the corn. I stood for a while and watched a pair of gray squirrels busy with ears pilfered from the unharvested crop. There was evidence that raccoons and skunks also had been busy. A grouse thundered up from the edge and dodged into the timber, and I had to fight down the instinct to follow it with my gun. Down the field edge, the rows terminated in a rank growth of grass and weeds. Something drew my

attention to a movement there. A dark back showed for an instant, then disappeared. Dark? It was black! I stood still. A bear emerged, turned down the edge and then re-entered the corn. Fortunately, the air flow was between us. A bear in full daylight? As near as I could judge, it was in the 200-pound class. Its prime coat rippled when it walked. Although it was mature, there seemed to be certain adolescent qualities; perhaps it was the same bear I had observed as a cub the previous year.

Suddenly, the animal dashed out of the corn into the woods. I had not moved to scare it. Then back it came running at full speed. It skidded to a stop, slapped a cornstalk with its paw, then threw itself flat and began to eat. I suspect the action was prompted by sheer exuberance.

Now I had a better view. The bear lay like a fur rug, facing away from my position. I watched for some time and then began to move slowly and quietly toward the animal. I was no more than 10 yards from it when I stopped. I could hear it feeding quite clearly. Apparently it was eating corn and cob together. To have the good fortune to approach so near this shy species happens rarely.

Some quirk of small-boy mischief prompted me to say, in a conversational tone, "Hey, you!" The reaction was instantaneous. The bear jumped to its feet and peered back over its shoulder in my direction. I could see the flare of its nostrils and even catch the sound of its sniffing. For perhaps 10 seconds it stood undecided. Then, with an explosive "woof," it fled.

I could follow its flight across the field by the swaying and rustling corn. When it reached the choppings that bordered the field, noise of its progress would have done credit to a team of horses.

Chance meetings that occur at intervals as we pursue our sport give insight into the personalities of wild creatures. Many times they show a kinship to us. Small wonder that the unexpected happening underscores my dad's expression, "Great day in the morning!"

Sometimes the Things We Remember Most
About Hunting are

“Ronnie’s Dumplings”

By George H. Block, III



WELL, FOLKS, here he is, ol' GHB3 hisself, starin' down on the largest of buddy Ronnie's dumplings. Which inspired this story, along with all the other friendships, dreams, jokes, humorous happenings and almost-religious experiences associated with hunting. Yeah, Ronnie's dumplings were small things. And like them, what makes hunting rewarding are the small—but important—things too.

I HAVE HEARD hunters described as “meat hungry” persons whose whole pleasure supposedly comes from the kill. They're supposed to be blood thirsty egotists who must prove their superiority over that which they seek. Is that what hunting is all about? I doubt it.

Then there are others who say hunting's pleasure comes solely from closeness to nature and the proximity of wild beauty: a multicolored autumn woods, the sound of a beagle with a nose full of rabbit, the smell of newly cut alfalfa on a woodchuck hunt or the cold crisp morning of opening day in deer season. Again, I doubt if that is what hunting is all about.

Both are partly right. For, if the kill meant nothing, why carry a gun? And surely the beauty and closeness to nature have deep meaning for most of us. But this still leaves out one of the major answers to the question, “What is the prime pleasure in hunting?”

To me, of much greater importance are “Ronnie's Dumplings.” Now that may sound irrelevant, even stupid, but it's true. Each of us has his own “Ronnie's Dumplings.” They represent the experiences we all have that make up the hunting stories—the friendships, the dreams and the humorous experiences we all remember and retell for years.

The preparation for a hunt can be memorable: going over the list of necessary items, checking the rifle sights, bragging to fellow workers about the big one that's in the bag, running the dog to get him in shape—you know what I mean. For example, three men who have been hunting together will

come to work and tell similar stories, but with one variation. Each one says the other two got lost and *he* had to rescue *them*. Now surely someone was lost, but who I'll never know, and I'm not sure I want to, for each time it's told the tale gets better. According to Harry, he had to depend on his built-in radar to save the day; Donny says he led the trio out of Buzzard's Swamp with a compass he had to tap to make work; and Charlie claims that he heard the sounds of cars on the highway and used them to lead his lost comrades back.

How well I remember the time I hunted with Ed and Dan in Warren County. We thought we had prepared carefully for this trip, only to discover on arrival we had no cook. After much discussion, Dan agreed to take on this chore, but on one condition: "Anyone who complains, cooks!" The very first morning when Danny set a cup of coffee in front of Ed, he sipped it and blurted out, "My gosh, but that coffee's strong!" Danny turned red, but before he could say anything Ed added calmly, "But I like it that way."

Other memories include Ed Haley and Cuddy telling the rookie hunter that rabbits climb trees; Charlie trying to outrun a herd of deer; and the bear in the garbage can. And then there's the trip to McKean County in search of turkeys, which I'll never forget. I was hunting with Ron Small and Dave George. This was to be a one-day affair, so we had driven north from Canonsburg and had arrived about two hours before daylight.

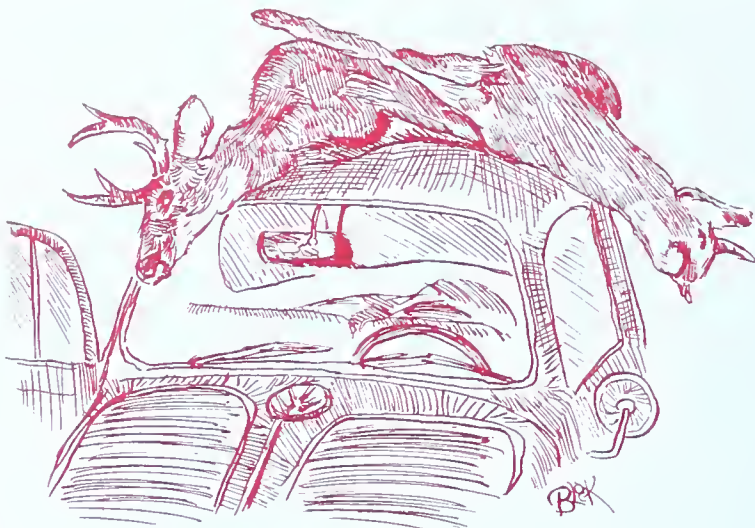
We slept fitfully in the car waiting for starting time. As the sky lightened in the east, we got out of the car, and prepared to go into the woods. As we laced our boots and put on our jackets, a commotion was heard above our heads. Out of a large hemlock beside the car flew six turkeys, looking like prehistoric flying monsters. The scramble to get the shotguns was a picture of futility, and the birds flew out of sight. While we had slept in our cars, a flock of turkeys had slept over our heads. Needless to say, they were the only ones we saw all day.



RONNIE tried his level best to follow his wife's dumpling recipe, but the results were . . . well, they were something else.

Ed Haley and I posted on our stands on opening day of deer season in Warren County. Every year we would return and post on the same two stands from 7 a.m. until 5 p.m. without going in for lunch. That year we decided to go prepared; we packed our lunch and fixed a thermos of coffee, then stowed them in a large canvas bag. This was a great arrangement with all the comforts of home.

But at 11 a.m. Ed came over and told me he had shot a 6-point, and asked if I would help him drag it the two miles to the cabin. I thought this over and replied, "It's early and I really hate to quit hunting. I'll tell you what—wait until noon and I'll help you. On second thought, leave your buck here with me, take a walk around the edge of the mountain and maybe you'll chase something my way. Then I'll help drag." Ed found my terms acceptable and departed, leaving his buck and rifle for me to guard.



ONCE, Ed Haley and the author both got bucks. Loading the animals on a VW bug was a memorable experience.

He had been gone about 20 minutes when nine deer came over the ridge in front of me and approached my crossing. Almost immediately I saw a spike among them. I leaned against a tree, aimed, fired, and had my buck for the season. I stood halfway between my deer and Ed's (where I could see both) and waited. Shortly he arrived on the scene. He had been approaching my stand and kicked the deer out of their beds. Everything had worked to perfection.

I was in the process of dressing my deer when it struck Ed. "You son of a gun!" he blurted out. "Now we have two deer to drag out, and I'll still have to take my own. You must have planned it that way. Just for that, you carry the lunch bag!" Now that was a problem. I had a deer, my binoculars, a scope-sighted 270, and a canvas bag with a thermos in it.

Tied Bag to Tail

There was only one solution. I tied the bag to the tail of my buck. There we were, two happy hunters, dragging two bucks, one with a bag bouncing along behind it, whistling and joking like a couple of 10-year-olds. Neither buck was a trophy, but what makes a better hunt than when your buddy and you are both successful? As long as I live I'll

never forget that trip back to the cabin. Every hunter we met laughed at our arrangement.

Few memories stand out like those of the second day of the 1974 deer season. I had scored 16 of the previous 17 years, but had been unable to show my son Patrick a legal buck. He had been hunting for three years and had taken two does, but he still wanted his first buck very badly.

The farm country bucks I usually hunt have larger antlers than those in the hills, but since Pat's thirteenth birthday we had been spending the opening two days in the mountains where deer were more numerous. Deer season was to open on Monday and we planned to leave Sunday morning, but Saturday night Pat came down with a bad case of stomach cramps. My wife Eileen said her son wasn't going anywhere the way he was feeling, so we both stayed home. There was no way Pat was going to miss the first day of buck season, so we decided to hunt near home.

The first day passed uneventfully, except for a small 4-point buck running across an open field, which Pat missed. It was his first chance at a buck, and I couldn't resist teasing him a bit. I kept asking, "How do you miss anything as big as a deer in a wide-open field?"

Tuesday morning didn't offer a chance at anything, and late afternoon found us posted in two good spots. After about an hour, I got cold and thought I had better check on Pat, as he'd been sick just two days before. As I cut through an open field I could see across a deep valley into another field, at least 500 yards away. There in the field stood four deer. Dropping belly down in the snow, I wiggled into shooting position.

With the 2 - 7 variable on my 270 turned up to maximum power, I immediately identified a nice buck standing with three of his girlfriends. I had shot groundhogs that far and thought I had a good chance, so I held about a foot over his chest and squeezed. At the shot the deer ran to the edge of the trees and stopped to look back. Again I held over the deer and shot. With that, all four deer ran into the woods.

I couldn't believe that I'd missed and called Pat so I could tell him what had happened. When he got to me I explained what the shooting was about and told him I was going to check for blood. He was to wait in a likely spot while I went after the deer. I found no blood and tracked that buck for two hours, seeing him once but failing to get a shot. It was ten minutes before quitting time when I dejectedly made my way back to my son. He wasn't where he was supposed to be, so I called out to him.

His answer will stay with me as long as I live. "Over here, Dad, I got one." Not trusting my ears, I shouted, "What did you say?"

"I got one," he answered, "an 8-point!" Never has despair turned so quickly to joy. That was my best hunt, even though it was to be the first year in a long time that I didn't get my buck. Now, months later, my son still asks me, "Dad, how did you miss that deer in an open field?" I usually answer, "But look how far he . . . oh, what's the use!"

Austin Courtney and Ronnie Stephens are two friends whom I see only once a year, during deer season. Both are supervisors in blast furnace operations of Jones and Laughlin Steel, one from Pittsburgh and the other from

Cleveland. Courtney is medium size, hair thinning on the top, straight faced but always good for a prank. Ronnie's a dark-haired, jovial giant, always laughing, always the best hunter, cook, and blast furnace operator. His 6' 3" frame is topped by a tassel cap that adds another four inches to his height. One look into that face and you know here's a fellow you could never believe, or trust, except when the chips are down. He's a born comedian who takes his tall tales seriously, and Courtney's the perfect straight man.

Couldn't Stand a Repeat

Sunday's preparation consisted of straightening up the cabin, putting food away and filling us in on what had happened during the previous year. Courtney told of a trip they made, camping in their car and cooking on a Coleman stove. Ronnie was cook, so the first morning he prepared breakfast while Courtney slept. It seems they had forgotten a few items, so he had to make do; he just cooked what he had. That morning they had pepperoni cooked in beer. Now that's some breakfast, and Court said he couldn't stand a repeat on this hunt.

On Sunday night, Ronnie cooked chicken and noodles. He labored hard over a hot stove, following his wife's directions. After the mixture had cooked for awhile, he proceeded to mix dumplings and when everything was right (and we all watched, trying to learn how) he took a large spoon and formed a dumpling. The only thing was, as he dropped each dumpling into the chicken noodle mixture on the stove, each one literally disintegrated. That evening we ate chicken, noodles and dumplings the size of radishes. Or peas, maybe. As I remember, Ed found the prize—a dumpling the size of a golfball—and passed it around, saying we should frame it as Ronnie's masterpiece.

Ronnie's dumplings were small things. And like them, what makes hunting rewarding are the small things. The joys, the pains, the close calls, the friendships, the long-lasting memories—these are "Ronnie's dumplings." These are what hunting's all about.

ENGLISH SPRINGER SPANIEL FIELD TRIALS

By Nick Sisley



FINDING ringnecks, the top game birds in many sections of Pennsylvania, is a chore at which springers excel.

THE ENGLISH springer spaniel is a medium-size hunting dog that many Pennsylvania outdoorsmen consider the finest breed for pursuing the Keystone State's varied small game. His compact size (25 to 40 pounds) makes him ideal for home, apartment, or outside kennel. Springers are usually liver and white or black and white. The white color often predominates, making them easy to see in the hunting field.

Finding pheasants, one of Pennsylvania's most abundant birds, is what a springer does best. While only the finest in pointing dogs are able to cope with the running ways of wily ringnecks, most any springer, being a flushing dog, has little trouble getting

even well educated roosters airborne. Pheasant hunting might be the springer's forte, but he adapts to most other small game species, and this characteristic endears him to numerous Pennsylvania hunters. Many springers become excellent routers and chasers of cottontails, though they do not circle them by running a scent trail like hounds. Because spaniels quarter the ground a short distance in front of their masters, they can also turn in excellent performances in the grouse woods or woodcock bottoms. Hunters who mix waterfowling with their other small game sport find that springers take to water willingly and quickly learn the knack of finding crippled, diving mallards.

Field trials for English springer spaniels provide tests designed to show the true mettle of these dogs. Trials are held all over the United States. Each spring and fall important springer trials are held by three clubs right here in Pennsylvania, the Keystone English Springer Spaniel Club, Mrs. Anne Kranich, Secretary, RD 1, Gravel Pike, Red Hill, Pa. 18076; Valley Forge Field Trial Assoc., Paul Thompson II, Secretary, 317 Edgehill Rd., Wayne, Pa. 19087; and the Pittsburgh English Springer Field Trial Club, B.B. Flick, Secretary, PO Box 114, McMurray, Pa. 15317. Let me describe a meet attended recently.

Last year's mid-November trial run by the Pittsburgh club was held at the Colonel Hunter Farm near Jamestown, in the northwest section of the state. This is a regulated shooting preserve, a fine locale for a springer trail for the dogs can show their best in its ideal cover.

At last year's running, 77 dogs were entered, 38 in the Amateur All Age stake, 30 in the Open All Age, plus 9 in the puppy event. This was the largest springer trial in the East during the fall season.

As with retriever field trials, these springer stakes are great spectator sport. The public is invited and I strongly suggest that Pennsylvania hunters who own or plan to own bird dogs attend. Walking behind the judges, handlers and dogs provides the opportunity to get first-hand information on how the top springer spaniels in the country act in the game field. This type of experience will help you decide if the springer is for you, and what bloodlines you like best.

Here is how a trial is conducted. To run in a springer trial, your dog should be registered in the American Kennel Club (AKC). You must then get an entry form from the secretary of the club holding the trial, fill it out and return it with the entry fee.

Three different stakes are usually held—Puppy, Amateur All Age and Open All Age. Puppy stakes are of course for young dogs. There is an age limit. Tests are not quite as difficult, and some mistakes can be overlooked.

Amateur All Age stakes are held for dogs of any age, but the handlers must be amateurs—they may not accept remuneration for any type of training or handling. Open All Age stakes are open to both amateur and professional trainers.

A drawing determines the order the dogs will run in each stake. Judges are selected well in advance and "official guns" are arranged for. These are among the most interesting and important parts of a springer field trial. They are the men who are expected to shoot the pheasants that the springers flush. The club attempts to select the very best bird shots in the state to act in this capacity.

"Ride" The Bird

Many factors make the official guns' chores difficult. Long ranges are almost always involved. If a dog flushes a pheasant at close range, the judges expect the shooters to "ride" the bird until it is 35 to 45 yards out before killing it. This provides a challenging retrieve for the dog. The more difficult it is, the better the dog looks to the judge—assuming of course that the springer makes a fast and successful retrieve. Many pheasants in these trials are not flushed at close range. Some erupt at the borderline of shotgun effectiveness. Still, the official guns are expected to do their job.

Pressure is another important factor. The guns want to do their job right and be fair to all dogs, handlers and judges with their shooting. A great deal is at stake with field trial participants, and the gallery is always watching, so the pressure on the shooters is tremendous. If the guns make a mistake, it's as apparent to everyone as the proverbial sore thumb.

Another important job rests with the man in control of producing or procuring the bird supply. Usually pigeons are used in the puppy stakes, and pheasants, both hens and roosters, in the all age events. In the Pennsylvania trials, usually several hundred birds must be obtained, taken to the trial, and kept in excellent condition. The man in charge of the birds is also in charge of the bird planters—usually



JOEY HAGGIS, young springer trainer, takes a pheasant that has been retrieved by one of her springers.

young lads and lasses who work ahead of the dogs, planting birds in strategic locations and in such a manner that the majority will stay on the pre-selected course but will still be good fliers. If not trained properly, it is easy for a bird planter to "rock" the pheasants too much or too little. Pheasants that are rocked too much usually don't fly and are caught on the ground by the working dogs. Those rocked too little may flush before the dogs work in close, or they simply run off the trial course.

Assume you are at the trial grounds and the first event is ready to begin. Two springers are run simultaneously. One judge observes each dog. Weed-field-type cover is usually chosen for springer events. The course each of the spaniels works is approximately 40 to 50 yards wide. Each dog is expected to quarter back and forth in his own area and not range into the territory in front of his bracemate. There are three official guns, one at the outside of each working dog, the third between the two of them. Each handler walks behind his dog and encourages him from one side of the cover to the other. In many cases the dog is expected to quarter on his own, without continuing commands. A

judge walks immediately behind each handler in position to observe everything. The gallery is headed up by the field trial marshal and is expected to remain 10 to 20 yards behind the judges.

At the judge's signal, the handlers start their dogs quartering down the course. Until a pheasant is encountered, the judges carefully observe the dogs for style, range, speed, manners, how they obey whistle, hand and voice commands and how they search likely pheasant holding places.

When game is encountered, the springer's demeanor changes significantly. His stubby tail vibrates even faster as he drives ahead, trying to find and flush his quarry. It is considered preferable for the dog to zero in on game quickly and flush it without losing time. Once the bird is airborne and the gun fired, a springer is expected to sit mannerly. This is a training refinement that is difficult to teach because every one of the dog's hunting instincts is telling him to give chase.

Many claim it is more difficult to get a hard-driving springer to sit once game is flushed than it is to teach a pointing dog to hold his game staunchly.

However, a pointing dog that does not hold steady is of little or no value, while springers still make excellent hunting dogs even if they chase flushing birds rather than sitting with proper field trail manners. In springer spaniel jargon, sitting to the shot is referred to as "hup."

Judges don't require a springer to sit long after the game is down. When the judge is satisfied, he taps the handler on the shoulder, and the handler gives the springer the signal to retrieve. The springer is required to sit to the shot so he can better mark the fall of the pheasant. He is expected to zero right in on the fall, find the bird quickly, and return it to his master. The more time the springer takes in accomplishing the retrieve, the less the judges favor him.

When one spaniel flushes a pheasant and the bird is shot, his bracemate (the other working spaniel) is expected to sit mannerly, "honoring" the first dog. Those that do not are usually disqualified. When the judge is satisfied that the honoring spaniel has performed properly, he signals its handler. The handler then whistles in his dog and commands him to sit at his feet until the retrieving spaniel has brought his bird in. Once this is done, both dogs are sent down the course until another bird is flushed. Remember that all these birds are pen raised and leg tagged, and have been planted in predetermined spots.

Once a judge has seen enough of one springer (usually two or three birds killed over him), he asks the handler to pick up his dog and calls for the next canine. The judge watching the bracemate may or may not ask the handler to pick up the second dog at this time. The procedure continues until all the dogs entered in the stake have been run. This is the end of the "first series."

For the "second series," the judges call back the dogs that performed satisfactorily in the first. Dogs not called back have usually committed an error and thrown themselves out of the trial. During the second series, the judges switch dogs; that is, each judge observes dogs viewed by the other judge in the previous series.

As a rule, more dogs "beat themselves" in the second series. Those that perform satisfactorily are called back for a third series. First-, second-, third-, and fourth-place winners are normally named after the third series. The dogs' performances in each of the three series are taken into consideration in giving the placements. Under certain circumstances it is permissible for the judges to call for a fourth series—or even more—or a water test.

Five professional trainers with strings of dogs attended last fall's Pittsburgh trial, four from Ohio and one from New Jersey. Owners of competing spaniels came from 11 states (as far away as Texas), and four dogs came from Canada. This gives some idea of the importance of the springer trials held here in Pennsylvania and shows how well they are followed by springer enthusiasts from all over the country.

Rundown on Winners

Here is a rundown of the dogs that placed first, second, third and fourth in the three events:

First place in the Puppy stake went to Verdant's Nicky, owner Vince Bolling, handler John Isaacs. Second went to Surrairie Pidge, owner Esther and Steve Ujhelyi, handler John Isaacs. Third went to Bimidam's Rufus, owner/handler Mel Wolfe. Fourth went to Bimidam's Casey, owner/handler Mel Wolfe.

First place in the Amateur All Age event went to Porridge Hill's Joshua, owner/handler Larry Francovich. Second went to Guadaira's Breakthru, owner/handler Fred St. Clair. Third went to Hi Tor Debel, owner/handler B. Flick. Fourth went to Guadaira's Fast Eddie, owner/handler A. Ringenberg.

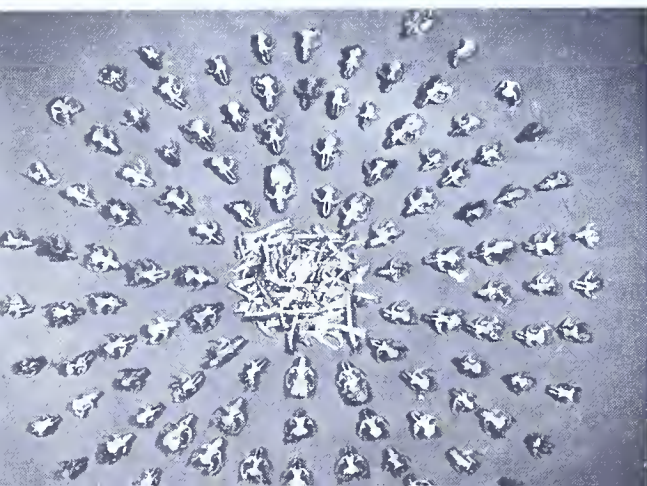
In the Open All Age event, the winner was Stanley Regis Premier, owner M. Kurkjain, handler Larry MacQueen. Second-place dog was Sulpher Creek Sabre, owner Fred St. Clair, handler Millard Tewell. Third went to Layerbrook Sirocco, owner Charles Mee, handler Al Hric. Fourth went to Salvo of Camden, owner E. Pomykal, handler Lew Craig.



BARRED OWL, above, and great horned owl, below with young in artificial nest, are two of the largest owls found in Pennsylvania.



BELOW is a collection of skeletal remains from prey of a barn owl. The long-eared owl, shown at right, is an efficient mouse-catcher.



SNOWY OWL nests on the ground; note hatchling on the right.

Pennsyl

Within historic times, the owl was recorded in Pennsylvania. Richardson's owls, have been recorded in the county in the Keystone state only in winter. The owl is smaller than a robin; by weight it weighs four pounds. Owls are beautiful creatures as well.





tundra. Here it defends its

nia Owls

dozen kinds of owls have been
e, like the great gray and
only rarely. Species such as the
be found in just about every
ne owls from the far north—
on the Arctic tundra—visit our
our owls is the saw-whet, a bit
female great horned owl may
interesting birds of prey and

By Karl Maslowski

RN OWL in flight. Hearing of this
pecies is so acute that it can catch prey in
al darkness.



SCREECH OWL, above, is delivering a June
bug to its nestlings. These small owls nest in
unlined cavities in hollow trees.



BELOW is a growing barn owl family. Saw-
whet owl, above, is named for its call, which
sounds like the rasping made when
sharpening a saw.





FIELD NOTES



No Way, Buddy

ERIE COUNTY—Last year, a deer hunter told me his three-year-old child had torn the tag out of his license. Of course that didn't explain the erasures on the tag, which he was carrying in his license holder.—District Game Protector W. A. Lugaila, Waterford.

Home Away From Home

TRAINING SCHOOL—Many people ask what it's like to be at the Training School for 11 months and only allowed to go home on three-quarters of the weekends. This is best answered by something my wife said one Sunday evening: "Well, it's about time for you to go home."—Trainee D. C. Parr, Jr.



Fraidy-Cat Dog

INDIANA COUNTY—A man told me that he had watched a deer eating hay right out of his beagle's dog house. "That's pretty unusual," I said. "That's nothing," he replied. "The dog was inside the box watching."—District Game Protector J. Deniker, Homer City.

Elk Experience

LYCOMING COUNTY — On a recent trip to Cameron County with Land Manager James Ramsey and Dorsey Smith from our Harrisburg Office, we were lucky enough to see 19 elk in the Dents Run, Benezette area. We saw the first three standing in a grassy bottom along the stream, then 13 more of the elk within 50 feet of the road feeding on the lush green grass in the lawn of a camp. Finally, three more elk were standing at the edge of a coal stripping. One of these was a young bull with antlers about two feet long. He climaxed the evening by walking up a steep slope on the strippings, which put him directly in the sky line. It sure was a beautiful sight, one which we will all remember for many years to come.—P-R Area Leader D. E. Watson, Williamsport.

By Any Other Name—

ADAMS COUNTY — On the Sunday following the first week of deer season, Deputy Glenn Herring asked me to help him investigate a complaint about Sunday hunting. We checked the area of the complaint but found no activity. As we passed a farmhouse we saw two young men in the yard. One was photographing the other, who was holding up a small deer with a rather large set of antlers. We decided to check the deer, but by the time we got back to the yard the deer, photographer and all had disappeared. Glenn looked at me and said, "Boy, that was quick!" As we stood there puzzled, we noticed two sets of antlers on a picnic table. A moment later, from behind a shed trotted a small goat. I guess this was another "what do you see" situation.—Deputy K. Baltzley, Biglerville.

Voice From on High

GREENE COUNTY—A state policeman from the Waynesburg Barracks took over part of the Lord's work. When called to an area to answer a complaint, the trooper noted a vehicle moving through a field in a suspicious manner. He noticed a spotlight shining on a group of deer. State Police vehicles are equipped with external loud speakers, so the trooper called out "Don't shoot that deer!" The prospective poachers must have thought the voice came from up above, for the lights went out and the vehicle departed the area at a high rate of speed.—District Game Protector R. W. Oliver, Greensboro.

Outdoor People

Each year, George Wildman's coed Explorer Group spends two or three days cutting browse. At night they sleep out in individual lean-to's. The cooperation and vitality of this group never ceases to amaze me. They also take snowshoe and canoe trips to Canada each year. I believe a vote of confidence goes to these young people and especially to George and his wife, as well as the other adult leaders.—Land Manager D. W. Gross, Chapmanville.

Starting Him Off Wrong

TRAINING SCHOOL—While on field assignment with DGP Dan Jenkins, Cambria County, we checked a father teaching his young son to shoot a 22 rifle. They were shooting at tin cans floating in a shallow puddle left by recent rains. Beyond the puddle was a mile-wide mountain valley. When we told them that such shooting was unsafe, the father said, "There's nothing out there for the bullets to hit." I hope we can change this boy's mind when he takes Hunter Education. And then maybe he can teach his father something too.—Trainee W. R. Dilling.

P.T.A. Meeting

TRAINING SCHOOL—Last Wednesday I asked one of my classmates what was scheduled for the afternoon. He said "P.T.A." When I asked what P.T.A. stood for, he replied, "You know, Self-Defense Class—Pain, Torture and Agony."—Trainee W. A. Sneath.



Charlie's Crazy

Officer Lee recently retrieved a ring-necked pheasant from downtown Titusville and took the bird out on the Game Lands where he released it near our headquarters building. The following day, "Charlie" the ringneck came running up to a truck, jumped in the door and sat on the floor. Later a traveler stopped his car and let his dog out for a stretch, and Charlie ran across the parking lot to inspect this strange creature. The man gathered up his dog as the bird was circling it, got back in his car and drove off. Since then, the cockbird has been climbing on the woodpile to look into the window of the building to see if anyone is inside. We have a bird feeder and Charlie waits until a dozen or so birds are on the ground feeding on the spilled grain; then he sneaks to within a few feet of the flock and charges through like a fullback, crowing loudly.—Land Manager J. R. Miller, Meadville.



Help From Home

VENANGO COUNTY—A deer poaching investigation by Deputies Coon and Chatley and myself turned into an amusing incident. When we approached the suspects, they fled in their vehicle, but were stopped a short distance away. One of the suspects fled on foot into nearby woods, leaving the officers with two suspects, a vehicle with a spotlight dangling out the door and no firearm for evidence. After identifying the runaway from evidence in the vehicle, we began to search the area and also called on the suspect's home. Eventually the suspect was arrested, but not before his wife drove up and offered to find him for us if we'd lend her a flashlight.—District Game Protector L. C. Yahner, Franklin.

Necessity/Invention

BEDFORD COUNTY—Over the past years the deer-carrying racks on game protector's automobiles have found many uses, but I feel that Ravers Gap and Southern Cover Sportsmen's Clubs may have come up with an original idea. On a recent browse-cutting expedition, someone neglected to bring the grille to do the cooking. Off came the deer rack and over the fire it went. It worked quite well too.—District Game Protector B. L. Warner, Manns Choice.

Catchy Cardinals

TRAINING SCHOOL—After sitting down at the typewriter to bang out a Field Note, a motion outside the window caught my eye. Two male cardinals, brilliant red against the snow, flew from the hemlocks to feed among the bushes here at the Game Commission Training School on State Game Lands 54. The cardinals later were joined by a troupe of chickadees. The Commission has acquired well over 1,100,000 acres of Game Lands across the state; these lands, preserved from commercial development, are a sanctuary for songbirds such as these.—Trainee R. G. MacWilliams.



Crow With Squirrelly Habits

TRAINING SCHOOL—Last week my father-in-law, Jacob Tryon, of Berks County, told me a crow had landed on his sidewalk while he was shoveling snow. The bird walked up to him with no apparent fear, and he noticed a red band on its leg. Jake then went into the house and got some crackers to feed the bird, hoping to catch it and check the band, but the crow would not be handled. Now the bird lands in Jake's maple tree every day and sets up a commotion until it is fed some crackers. The strange part of the story is that after the crow eats its fill, it buries what's left of the food in the ground and covers it with a leaf.—Trainee J. A. Shutter.

Refrigi-cruit?

TRAINING SCHOOL—During field training, hunters asked us numerous questions on a variety of topics. We answered most of them in all seriousness, although a little humor was added every now and then. One hunter asked Cumberland County DGP Jim Beard what the letter “R” signified on the left pocket of my Refrigiwear jacket. DGP Beard quickly replied “Recruit—what else?”—Trainee S. A. Smithonic.

Too Many Titles

TRAINING SCHOOL—No wonder a guy gets confused. My jacket patches read “Game Protector Trainee,” I am required to sign my memos “Game Conservation Officer Trainee,” my law enforcement credentials read “Deputy Game Protector,” and when I was in the field I was called a “Student Officer”.—Trainee W. P. Anderson.

Chilly Belly

FOREST COUNTY—Last January 22 I took my wife and daughter for a ride to show them some turkeys. While driving, I spotted a garter snake slowly crawling across the road. The temperature had been around zero for several days and on this day it got up to about 28 degrees.—District Game Protector E. L. Taylor, Tionesta.

When Your Time's Up—

A landowner in this county has a farm with mine subsidence on it. In one field is a fissure about 10 feet long and varying from 1 to 1½ feet in width. It had to be hit just perfect, and it was, by a deer running lengthwise. The animal fell into the hole, became lodged and died.—Land Manager, R. H. Muir, Kittanning.

This Town Ain't Big Enough

WESTMORELAND COUNTY—A game protector's tools are many and varied, but Deputy Frank Guerrier has come up with some unusual items for answering skunk complaints. Frank was called to Latrobe to handle a skunk problem. He arrived to find a skunk at a busy intersection in the heart of the city. Deputy Guerrier rummaged around and came up with a cardboard box and a plastic garbage bag. Carefully keeping an eye on the skunk's tail, he covered the animal with the box. The bag was then slipped over box and skunk, and with Frank and skunk on their way to remote country, the intersection returned to normal.—District Game Protector B. K. Moore, Saltsburg.



Heard It Thru a Grapevine

TRAINING SCHOOL—No matter how great our technology or how sophisticated our mass media communications, none will ever beat that of Mother Nature. One day after lunch my fellow student officers and I returned to an area where we had been cutting browse that morning. To our surprise, the local deer herd had already moved in to feed during the hour that we were gone.—Trainee G. A. O'Hara.



A Red-Bristled Push Broom

BRADFORD COUNTY—Deputy George Barrowcliff got a telephone call to remove a strange animal from a cellar. George arrived, was directed downstairs and was shown a box which the animal had supposedly gotten into. It was dark in the box and he couldn't see anything. He took a stick, and approached the box while the houseowner kept a safe distance. When George looked in, there it was! A push broom lying there with the bristles up. What a weird, frightful creature.—District Game Protector A. D. Rockwell, Sayre.

Birder's Field Day

I've been a bird watcher for quite a few years, but my records for January 27, 1976, show I had a pretty good day. On the Game Lands or at my feeder I saw the following: slate-colored junco, cardinal, tufted titmouse, chickadee, evening grosbeak, blue jay, goldfinch, starling, red-bellied nuthatch, white-bellied nuthatch, downy woodpecker, hairy woodpecker, Carolina wren, mourning dove, crow, sparrow hawk, tree sparrow, English sparrow, white-throated sparrow. In addition to these, I saw four bluebirds in Washington County, two red-tailed hawks and, for the first time ever, a red-bellied woodpecker.—Land Manager R. B. Belding, Baden.

Hunting & Fishing

SUSQUEHANNA COUNTY—For the past two years, Harry Sternberg, one of our nonresident friends from Binghamton, N.Y., has shot a buck in the Silver Lake woods. Both deer fled to Silver Lake and died in the water. Thus Harry is the only hunter we know who has ever gotten two deer out of the same lake.—District Game Protector D. G. Day, Hallstead.

Slight Misinterpretation

On January 30, 1976, I received word over PGC radio that I was to wear the "Field Dress Uniform" to a meeting that night. The people who have radio scanners on our frequency apparently got a chuckle out of this, because I received three telephone calls explaining to me how I should be "field-dressed."—Land Manager J. D. Swigart, Butler.

Slip of the Tongue

LYCOMING COUNTY — One morning another hunter approached me and we struck up a conversation. We both remarked on the abundance of squirrels in the area, and then he asked, "Hey, what's the bag limit on squirrels?" I answered that I "thought" the limit was six per day. To this he replied, "Oh, I was just wondering. There's supposed to be a game protector hunting here today. Have you seen him?" I said, "Would you believe you're talking to him?" A look of surprise and embarrassment spread over his face. Then he grinned and said, "Boy, this will be a good one to tell at the supper table tonight! I was just kidding. I knew what the limit was and just wanted to see if you did." And with that parting remark, he hurried away.—District Game Protector W. L. Hutson, Muncy.



By Ted Godshall

Drakula Named Commissioner

ONE NEW member has been selected to serve on the Pennsylvania Game Commission and two incumbents have been confirmed to continue serving with the eight-member group.

The new appointee is David L. Drakula, who at age 32 is the youngest person to ever serve as a member of the Commission. Drakula, of Emporium, is a teacher in the Cameron County school system. He holds a bachelor of science degree from California (Pa.) State College and a master of education degree from Johns Hopkins University. He is also a Cameron County commissioner.

Drakula is well known as an outdoor writer, having served as secretary of the Pennsylvania Outdoor Writers Association. He is also a member of the Outdoor Writers Association of America and is an outdoor columnist for the Cameron County *Echo*, the St. Marys *Daily Press*, and the Olean (N.Y.) *Herald*. Drakula has for years served as a hunter education instructor and is a member of numerous sportsmen's organizations. Drakula, whose term will expire in 1983, succeeds Marshall E. Jetty, of Brockway. Jetty, who had been a commissioner since 1970, served as vice president of the board from 1973 through 1975.

James A. Thompson, of Pittsburgh, the senior member of the Game Commission, has been a member since 1957 and served as president of the group in 1960, 1961 and 1962. His current term will end in 1983.



DAVE DRAKULA, newly-appointed Game Commissioner from Emporium, Cameron County, is well-known in the outdoor field in Pennsylvania.

Robert E. Fasnacht, of Ephrata, who has been a member of the Game Commission since 1965, will continue to serve in a term which will end in 1981. Fasnacht served as president of the group in 1969 and 1970.

Drakula, Thompson and Fasnacht were appointed to their new terms by Governor Milton J. Shapp, and were confirmed in early February by the Pennsylvania Senate.

Other members of the Commission are Elmer M. Rinehart, Stroudsburg, president; C. Clair Winter, Everett, Secretary; Andrew C. Long, Shamokin; E. J. Brooks, Lansdale, and Robert E. Sutherland, Erie.

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138,195 Whitetails Harvested



BIG-ANTLERED 8-point was taken in Caledonia area during past season by Charles Van Benscoten, of RD 9, Chambersburg. This is the kind of trophy all hunters seek.

PENNSYLVANIA'S deer hunters recorded their second largest buck harvest in history during the 1975-76 whitetail seasons, according to reports filed with the Game Commission. Cards mailed in by successful hunters indicate 71,986 antlered deer were taken, while another 66,209 hunters in the state reported tagging antlerless deer. The total reported whitetail harvest was 138,195.

The 1974-75 figures were 70,689 antlered deer and 54,963 antlerless whitetails, for a total harvest of 125,652. The 1975-76 antlerless harvest was the sixth largest on record, and the total harvest was the fifth highest since record keeping began in 1915. The most recent buck harvest was exceeded only in 1967, when the record 78,268 were reported tagged.

Of the thirteen largest buck harvests in the state's history, twelve have occurred in the last twelve years, and of the four antlered deer harvests which

have exceeded 70,000, three have been recorded in the last three years.

Prior to the season, the Game Commission said that it hoped that hunters would harvest at least 65,000 bucks and a minimum of another 65,000 antlerless whitetails.

The one-day extension of the antlerless deer season on Saturday, December 20, was completely justified, reports show. Cards returned by successful hunters indicate 14,251 whitetails were taken on that day. Had there been no extension of the season, the antlerless harvest would have been about 52,000, far short of the desired 65,000 minimum.

Potter County, traditionally one of the best deer hunting areas in the state, led all counties in buck, antlerless and total harvests during the 1975-76 seasons. Hunters reported taking 4085 antlered and 4300 antlerless whitetails in Potter, for a total of 8385 deer from "God's Country." Following Potter in antlered deer harvest were Tioga, 2605; Bradford, 2498; Lycoming, 2485; and Clearfield, 2439.

Other leading antlerless harvest counties were Tioga, 2674; Bradford, 2632; Huntingdon, 2365; and McKean, 2361.

Counties other than Potter leading in total harvest for 1975-76 were Tioga, 5279; Bradford, 5130; Lycoming, 4661; McKean, 4565; and Huntingdon, 4564.

The buck total included 52,579 with three or more points and 19,407 spikes, while the antlerless figure included 54,833 females and 11,376 males.

All figures are actual counts of report cards filed by hunters. Every year deer harvest figures compiled by the Game Commission are questioned, but so far no one who has looked at the report cards mailed in by hunters has challenged the accuracy of the count. Again this year, the Game Commission extends an open invitation to any interested individual, group or groups to come to commission headquarters in Harrisburg to examine and/or count the report cards filed by hunters.

388 Bears Taken

BEAR HUNTERS harvested 388 bruins during Pennsylvania's one-day season on November 24. The 1975 harvest was well above the 223 bears taken in the 1974 season. However, much more favorable weather conditions prevailed during the 1975 season.

During the 1975 season the top bear-producing counties were Pike, 55; Clinton, 40; Lycoming, 34; Monroe, 27; Elk, 25; Centre, 24; Cameron, 22; and Tioga, 21.

Resident hunters took 368 bears, while the other 20 were bagged by nonresidents. Game protectors reported that 175 of the bruins, or slightly less than one half of the total harvest, were males.



CHARLES L. ATHERTON, RD 1, Mount Union, took this 262-lb. black bear in Huntingdon County last season.

Book Review . . .

Pennsylvania 1776

The Bicentennial will be responsible for many things. One of the best and most lasting will be this large, beautifully done book from The Pennsylvania State University Press. Some eighty contributors vividly portray, in words and pictures, life as it was in Pennsylvania at the time of the Declaration of Independence. This book shows how Pennsylvania reflected the colonial experience in some ways but was unique in others; it shows how the geography of Pennsylvania—its mountains, rivers and resources—influenced the actions of our citizens of 200 years ago; it shows how Pennsylvanians struggled to survive and earn their livelihoods, how they adapted education and religion to their society, how they responded in medicine, technology and science to the climate of their time; it tells of their contributions in art and politics, how they attained a consciousness which made them break with their mother country, form a government of their own and fight for independence. Overall, *Pennsylvania 1776* reconstructs the social, economic, political and cultural life of this Commonwealth in our nation's first year. It helps us to know and understand the roots from which we sprang. It has lasting value. (*Pennsylvania 1776*, Robert Secor, general editor, John M. Pickering, associate editor, Irwin Richman, picture editor, Glenn Ruby, designer, The Pennsylvania State University Press, University Park, Pa., 16802, large format, 380 pp., \$15.)

Pennsylvania Trappers to Meet

The 39th annual state convention of the Pennsylvania Trappers Association, Inc., will be held at Playland Campgrounds, seven miles east of Meadville, near Pettis on Wayland Road. Dates are May 14-16. For information or reservations, write Playland Campgrounds, RD 6, Meadville, Pa. 16335, or phone 814-425-7314. The theme for this Bicentennial year is "Trapping Freedom for 200 Years."

Good Goose Harvests on Controlled Areas

HUNTERS again had successful seasons during the past year on the Pennsylvania Game Commission's controlled goose areas at Middle Creek and Pymatuning.

During the season, 2348 hunters took 925 geese from blinds at the Middle Creek Wildlife Management Area in Lebanon and Lancaster Counties. The 39 percent success figure at Middle Creek is lower than the 59 percent success rate chalked up in 1974, which was the first year for a controlled harvest of waterfowl at Middle Creek.

However, in 1974 migrant geese were found at the facility throughout the season, but in 1975 the migrating honkers did not appear in appreciable numbers until the middle of November, well after the mid-October opening of the season.

Waterfowl Management Assistant Charles L. Stroupshar estimated that about 500 of the geese taken at Middle Creek in 1975 were from the resident flock of slightly less than 2500 geese recorded when the season opened. Or-

HUNTERS TOOK 925 geese on the Middle Creek area, for a 39 percent success ratio, and 2932 at Pymatuning, for 68 percent. Good numbers of ducks also were bagged.



dinarily, migrants make up a large percentage of the harvest of Canada geese in Pennsylvania.

Stroupshar also attributed part of the reduced goose harvest to poor waterfowling practices by hunters, who often were improperly clothed and fired while birds were well out of range.

Hunters also took 223 ducks from the Middle Creek goose blinds. This is a sizable increase from the 98 recorded there in 1974.

At the Pymatuning Waterfowl Area in Crawford County, an all-time record 4279 hunters using the goose blinds took 2932 honkers, the second highest harvest recorded in the 13-year operation at Pymatuning. The record number of geese bagged from Pymatuning blinds is 3030, established in 1974, according to Waterfowl Management Coordinator Ray M. Sickles.

Hunters took 1261 ducks from the controlled shooting areas at the Pymatuning. The number of hunters using the controlled duck areas totaled 2298. Leading species bagged were mallards, wood ducks, green wing teal and black ducks. The total duck harvest for 1974 for the same areas came to 1687.

The success ratio for hunters using the Pymatuning goose blinds in 1975 was 68.5 percent, compared to 71 percent the preceding year.

Holders of goose blind reservations at both facilities were chosen in random drawings prior to the season. A record 30,055 applications were submitted for blinds at the Pymatuning, and another record 10,634 were entered for the Middle Creek blinds.

Resident geese at both Pymatuning and Middle Creek numbered about 2500 early in September. Migrating honkers swelled the Pymatuning flock to the 15,000 level during the fall, while that figure was not quite attained at Middle Creek. About 8,000 to 10,000 geese spent the winter on each of the areas.

Days of Yore



THE DETWEILER OUTING CLUB, located in Stone Valley, Huntingdon County, had a good deer season in 1926, with six nice bucks taken. Front row, standing: unknown, H. Roynan, the cook, and G. Kline; sitting, C. Fultz, F. Gumbert, R. Snook, P. Kline and R. Felker. Second row: W. Fowler, G. McCormick, G. Hendricks, C. Mattern, C. Kline, C. Berlin and H. Harpster. Back row: G. Sherlock, F. Cooper, W. Davis, W. Kline, N. Berlin, unknown, F. Albright and Bobbie McCormick, the mascot. Photo from Clarke E. Kline, of Lewistown.

A Note On The Woodchuck Season

As times change, so must attitudes and philosophies. Some do not remember that prior to 1953 there was a season, usually July 1 to September 30, on woodchucks. A daily bag of five 'chucks was in effect 1950-52.

Many ardent woodchuck hunters had repeatedly recommended protection during the period the young are dependent on their mothers. Similar sentiments have been expressed by other sportsmen and the general public.

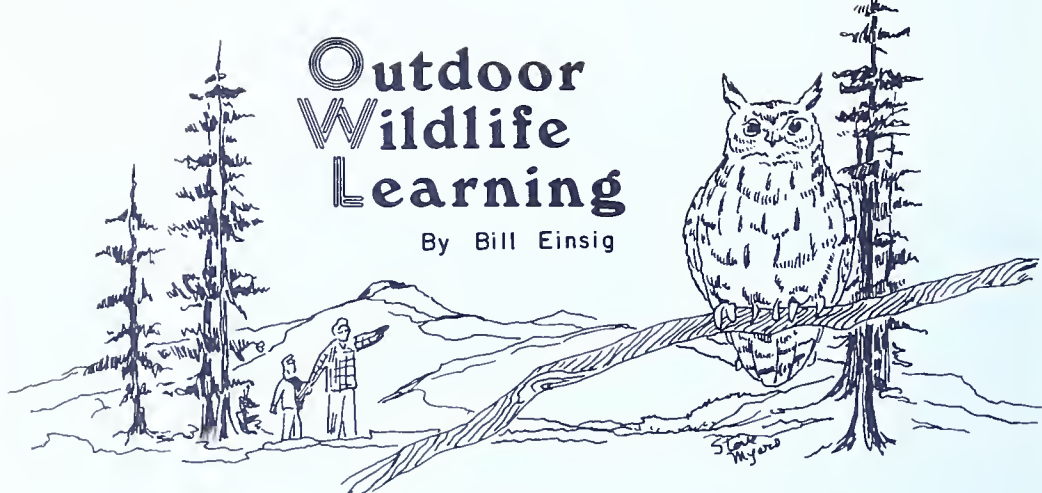
A valid reason to defend the sport harvest of woodchucks on a year-round basis could not be advanced. While the destruction of damage-causing woodchucks by farmers is readily accepted, sport hunting and harvest before the young are weaned is frowned upon.

The mid-June start of the season as currently established for woodchucks allows young 'chucks to reach the stage of self-sufficiency should the mother be taken by a hunter.

Farmers should note that woodchucks causing damage may be killed in any manner, at any time, by landowners or occupants of farms, or by members of their family, or an employee hired on a monthly or annual basis and regularly assisting in the cultivation of the lands.

Outdoor Wildlife Learning

By Bill Einsig



Skulls

A great deal can be learned about the biology and habits of mammals through a study of well-cleaned skulls. Unlike the more common insect and leaf collections, skulls can be stored easily, are far more durable, and are not as susceptible to attack by insect pests. In addition, the novelty of working with real skulls builds a great amount of student interest.

Detailed study of a deer skull would provide information on the animal's probable diet, age and physical condition. Comparison of dentition between a rodent and a raccoon would lead naturally to a discussion of specialized food habits. Contrasting the size of eye sockets of a mole with those of a deer mouse would reveal specific adaptations to different ways of life. Eyes of prey species such as rodents and deer are oriented laterally to

provide a wider field of view, while predators have forward-looking eyes that benefit from binocular vision. Students could theorize and sketch how they think an animal would appear based on the structure of an unidentified skull and might also determine the animal's niche. Our impressions of dinosaurs are based on this same inductive technique.

The easiest ways of getting skulls are through hunting or trapping. Students who do not take part in these activities themselves in many cases can obtain skulls from friends or relatives who do hunt. I'm sure it's unnecessary to remind anyone that no animal should be killed simply for its skull.

Preparation of the skull takes a bit of work and some patience but could become a project for a group of students. The easiest method is to put the entire head into an established colony of dermestid beetles. These hard-winged insects and their larvae will eat all the flesh, leaving the bare skull beautifully clean. Another technique is to bury the specimen, leaving it to a host of invertebrates for 4-6 weeks. Dig it up and the flesh is gone!

A faster method is to boil the skull in water with sal soda after most of the flesh has been removed with a knife or scalpel. When the meat begins to pull free, remove from heat and cool slowly to avoid cracking the tooth enamel. Scrape well and remove the brain with a crooked wire and by flushing under a faucet. Soak in dilute ammonia solution (4 oz. household ammonia per quart of water) for two to seven days, then rinse and clean well with wire brush and scalpel. Overnight immersion in full strength chlorine bleach will remove odors and stains, while an additional overnight treatment with cleaning fluid will degrease the final preparation.

Numerous books and pamphlets give more detailed instructions than are outlined here. One of the best is *The New*



Field Book of Nature Activities and Hobbies, by William Hillcourt, published by G. P. Putnam's Sons. This classic idea book should be in every school, classroom and home library.

"Ecology In The Classroom"

The Audubon Naturalist Society has produced a complete teaching unit on ecology for upper elementary grade levels. "Ecology in the Classroom" is used each spring and fall by teams of volunteers who present the program through a number of public schools in Washington, D.C. The kit has been sold throughout the United States, five foreign countries, and has been translated into Spanish!

The program content is appropriately basic and designed to acquaint students with the natural elements of their environment and to develop an appreciation for the outdoors. Six topics form the backbone of the content outline—Interdependence, The Green World, Pollination, Insects and their Relatives, Birds, and Mammals and other Animals. These form a proper foundation for outdoor learning unlike many of

the slick commercial programs that delve too deeply into terminology and concepts that should be reserved for the secondary levels.

The most impressive quality of the kit, however, is its completeness. Not only are there annotated lesson plans but suggestions for exhibits, posters, flannel stories, and games. Activities are proposed for summer vacations, and drawings are supplied for students to color and keep as notes. With a few modifications to meet local conditions, this kit becomes a meaningful unit for any upper elementary class. In fact, secondary teachers, cub scout leaders and camp counselors could insert this unit into their programs as well.

For further information, write Elizabeth D. Kuhl, Audubon Naturalist Society, 8940 Jones Mill Road, Washington, D.C. 20015.

Any Ideas???

O.W.L. welcomes your comments and looks forward to sharing your ideas with its readers. All correspondence should be mailed to: Bill Einsig, 1912 Karyl Lane, York, Pa. 17404.

Books in Brief . . .

(Order from publisher, not from Game Commission)

Beginner's Guide to Rock and Mountain Climbing, by Ruth and John Mendenhall, Stackpole Books, Cameron and Kelker Streets, Harrisburg, Pa. 17105, 159 pp., paper-bound, \$3.95. It's hard for many persons to understand why anyone would climb a dangerous mountain merely "because it's there," but thousands do just that. This little book is packed with practical information on the equipment and methods all beginners should be familiar with before they head for the high country.

Wonders of Wild Ducks, by Tom Fegely, Dodd, Mead, 79 Madison Ave., NYC 10016, 80 pp., \$4.95. Aimed at readers aged 8 to 12 and fully illustrated, this attractive book gives the natural history on over two dozen species of puddle ducks. A fine book for youngsters becoming interested in waterfowl.

The Sportsman's Complete Book of Trophy and Meat Care, by Tom Brakefield, Stackpole Books, Cameron and Kelker Streets, Harrisburg, Pa. 17105, 223 pp., \$8.95. Brakefield's book begins where most hunting books leave off—with the care of trophies in the field, butchering game, and preparing birds, fish and animals for the taxidermist. Good useful stuff that even includes some suggestions on cooking.

Taxidermy Step By Step, by Waddy F. McFall, 230 pp., \$8.95. Want to know how to mount an elephant—whole? This book tells you. Perhaps more practically, it also tells how to collect and care for "normal" specimens in the field—birds, small mammals, etc.—how to skin them, tan skins, mount animals, fish, snakes, whatever. The author has spent 40-plus years so engaged, including a stint with the American Museum of Natural History, so he has the answers.

The Wilderness Handbook, by Paul Petzoldt, W. W. Norton Co., 500 5th Ave., NYC 10036, 286 pp., \$7.95. Petzoldt is director of the National Outdoor Leadership School in Lander, Wyo. For a half-century he has been perfecting techniques to assure the safety of persons who enter the wilderness and teaching these skills to thousands, including many servicemen. This book details his findings. Highly readable as well as informative.



WOODLAND THOUGHTS

BY LOU HOFFMAN

Wildlife Education Specialist

Another seasonal corner has been turned, and with our backs to winter, we face springward for an annual renewal of a timeless ritual. Spring is alive with a newness that opens the first chapter of an imaginary volume too large for any naturalist's book shelf. Actually, man's first calendar marked this time as the beginning of the year, as timekeeping and agriculture were inseparable then. To those close to the soil the vernal equinox signaled the beginning of the growing season, and logic followed that spring should initiate the recorded year. But Julius Caesar changed that, and now January holds the distinction of being our first month. And even though we are three months into 1976, the outdoorsman

PONDERING springs past results in numerous reflections, yet many, like the season, are repetitive. But the interest and excitement stirred by the sights, smells and sounds arouse the senses in an anxious sort of way.

Most Pennsylvanians take for granted our geographic location, which accounts largely for the seasons we enjoy. Sandwiched in the heart of the temperate zone, we experience some seasonal happenings unknown to many. In our locale, spring and fall are distinct periods that unfold a uniqueness not seen farther north or south. Although autumn's foliage is more pronounced, the temperate spring asserts herself too. Farther north, there is no time to wade into the growing season, for the changing seasons are abrupt and seem-

subconsciously notches this period as his personal start of this year.

January, February, and March were void of the activity and energy that spring will unleash. Yet looking hard at the season, there isn't much that's new. Coltsfoot, skunk cabbage, fox pups and singing woodcock have all been here before. But their simple commonness is renewed with the animation of another spring. It's like the joy of seeing a deer. I don't know how many I've watched—thousands perhaps—yet each sighting is different and always worthy of the time taken to look and admire, and when I don't feel that way, I'll start to wonder about myself. In a way spring is like that. Not really different but always a welcome change.

ingly without a definite spring. Southward, toward the equator, little-changing temperatures produce a monotony void of any vernal freshness. Applying some of that classroom geography of years gone by helps us interpret the season and explains why spring is so colorful to us.

A landscape surging with freshness is the highlight of spring. Brown meadows and hillsides give way to a host of greens, and the soil is revived. Brighter specks of color reflect scattered early wildflowers and, on northern slopes where contrasting patches of snow remain, the color scheme is especially pleasing.

Coltsfoot is one of spring's harbingers. This bright yellow flower "picks up" the mood of the season. It's often

confused with the dandelion but, on close inspection, the bristly flower is found to be smaller and supported by a stalk with reddish scales. The leaves are palm-like and broader than the deeply cut, lance-shaped leaves of the dandelion. Only one of many spring flowers, it is a common bright spot along the ridge.

A telltale sign of spring is all the road-killed wildlife. Rabbits, possums, muskrats and a host of species meet an undeserving fate via rubber, concrete and macadam. The mating season and the dispersal of last year's juveniles account for increased movements and subsequent road crossings which result in one of the real mortality factors facing our wild populations today.

In the spring, nature offers many animal/human parallels that, to the observant, provoke learning. Unfortunately, too many human egotists are incensed with the idea that we are nothing more than sophisticated animals, and these mini-lessons go ignored.

In particular I'm thinking of the overriding attention wild animals give to their offspring. Last April I watched a large red fox (probably a male) zigzagging through an old cornfield in search of rodents. There's nothing unusual about that, but he was only 75 yards from a major highway and it was 2:00 in the afternoon. His lack of concern—and he was surely inviting trouble—was overshadowed by his instinctive drive to find food for his young. Yes, there are many lessons to be learned from these uncivilized beasts.

During all seasons, the whitetail is an exciting member of the woodland community. Maybe that's because I'm a

deer hunter and April finds me looking hard at each deer for signs of new antler growth and thinking thoughts of another fall.

The increased sunlight of the lengthening days rouses the buck's chemistry. Hormones, those catalysts that account for the behavior of all living things, are produced by glands and then spilled into the bloodstream. Antlered growth results as rusty velvet pushes off the pedicels supporting the new tissue. The rate of growth is almost cancerous and no other healthy animal tissue develops so rapidly. The final product is one of nature's most stately accomplishments.

Sound of the Wild Gobbler

And then there's the sound of the wild gobbler intent on proving to "his" mountain that he is king. His booming gobbles mean much to the nimrod, as they quicken the pulse and reveal an otherwise elusive forest dweller. The first gobbles of the day are especially moving. Usually following the spooky epilog of the owls, they echo like canons off the surrounding ridges. If you're close by, expect to be lifted right out of your seat.

The clumsy antics of the timberdoodle also point to spring's presence. Although usually found along stream bottoms and in other wet areas, last spring we found one on an open hillside in southern Potter County. Usually the male woodcock begins his nuptial display at dusk by monotonously repeating nasal, bleating "peents" which resemble the nighthawk's call. He continues until flight time when he shoots upward to heights of several hundred feet and then, in ever-tightening spirals,





WHITETAIL buck, with antlers beginning to grow, is one of many creatures that capture the essence of spring.

descends with his outer primaries catching the wind and making a warbling trill. All this to attract a female.

Our Potter County performer, other than being out of place, followed his instinct well and provided an interesting finale for the opening day of trout season.

Closing the day, the woodcock's flight gives way to the evening sound of the peepers, wood frogs and a host of other amphibians. Collectively they transform the winter gloom of the swamp into a noisy orchestra. Certainly there's a place for the howling winds of January and February and, next to a roaring stream and rain on a barn roof, they are some of my favorite sounds. Yet winds and waters are lifeless, and the nighttime sounds of spring add another dimension to the season.

There is one thing that the outdoorsman can do to capture the memories of spring. Of course some things are permanently imprinted and need no recording. It's not easy to forget the sight of your first bald eagle

or the shrill call of a loon echoing from an isolated cove. But there are some beautiful things worth recalling that aren't quite so vivid, even if you've got a good memory.

How do you recall those things? Simple, but it takes a little time. Jot them down in the form of a log or diary. Your entries needn't be daily, but you should discipline yourself to record the highlights of your outdoor jaunts. Note the weather, the place you visited (even comment on those places near your home that you take for granted—personal landmarks such as "the rock pile," "the laurel patch," "the old field," etc.), what you saw and any other interesting points you noted. The hardest thing is getting started, but it will be worth your while.

During the last five years I've been logging my observations with a lot of satisfaction. Little things that would have passed now help recall some interesting times . . . like April 5, 1971, when I banded my first woodcock . . . or April 6, 1972, when the wood frogs in Muthersbaugh Swamp were almost deafening . . . or April 18 of the same year when I surprised a mink on Horton Run . . . or on April 13 of 1975, when I hiked through Birch Run . . . and dozens more. These simple recordings help me recall many good memories. Also, the more involved you become with the outdoors, the more you will learn to appreciate and understand the natural world—something more of us need to do.

But there is a far better reference than those I might give, and that's Ned Smith's *Gone For The Day*. If you read the springs Ned has described and don't want to pick yourself up and get outside, something is wrong with your bloodstream.

When you return, take some time to reconstruct your outing. Months and years from now, and maybe on a rainy day, you'll thank yourself for doing so. But you'd better hurry, 'cause summer is just around the bend.

A Sewing Success!

By Susan M. Pajak

REMEMBER my column last month? Well, wonders will never cease! May I be the first to inform all you sewers and stitchers out there that I made it; I actually sewed up a down-filled jacket for my husband Frank with nary a slipped stitch. Or headache. Or other nerve-frazzling problems—and with only a nominal amount of time involved.

As with the construction of any garment, however, there are reminders connected with the project that you should follow no matter which company issues the sewing directions, nor how many years you have been sewing.

Concerning nylon material and down: First on the list of watch-its is not to handle (or allow children to handle) the packets of down until you are ready to work with them. These packets or envelopes are water soluble and contain a goodly amount of tightly compressed down, as you will learn quickly once you pop them open in the channels.

Really, it did surprise me that seven (my garment called for seven) little hand-sized packets held all that down for a man's medium size jacket. When I pulled apart a packet in the channel it certainly did pop, so please be careful with them. Trying to recollect a popped packet of down from off one's floor can be compared to sticking the feathers back on a plucked chicken

Second, mark plainly with tailor's chalk, or a sewer's marking pencil, every quilting line or sewing line required and shown on the pattern. On some garments, the sewing guide lines for quilting, etc. are nothing more than tiny pinholes and just about invisible to the eye. Trying to put the garment together without first marking the necessary lines with chalk is next to impossible.

Third, make sure the down is fluffed evenly throughout the garment before sewing shut any of the final quilting or

channel seams. Most directions say to fluff the down by placing the garment in the clothes dryer with two bath towels and a clean tennis shoe. Surely these companies must be aware of the scarcity of clean tennis shoes in my family; with kids, the dirtier the sneakers are, the more 'in' you are!

After fluffing up the down for 30 minutes or so as per instructions, the garment will be air-filled and puffy so before stitching any sections, flatten the down by using both hands to pound or push it.

If you don't fluff it to distribute the down evenly, the garment could very well develop an empty spot, or square, without any down—and that potential cold spot might not show up until the very last seam line is sewn. And of course that would be most disheartening to a budding seamstress.

PAJAK proudly models down jacket she made from kit for her husband Frank. Kits for vests, mittens and others are available too.



GIRLS, GUNS, & GAME...

Here are a few other notes I jotted down while making this jacket: Use only a warm iron setting (never hot) if a seam needs to be pressed. Avoid too much pinning as this only puts unnecessary holes in the nylon material. There's no need to baste, as these garments are not strictly form fitting, nor should they be.

Take your time and follow each sentence of the sewing directions completely. Do not take any shortcuts, but construct the garment *step by step* as directed by the pattern.

If you choose to sear the edges of nylon seams with a match instead of overcasting them (to prevent fraying),

please have a steady hand. One jerky movement with a flaming match and nylon material and it is possible to end up with a hole exactly where you don't want one. I chose to overcast all seam edges and as a result used more thread.

Take a break. If any particular pattern direction seems a bit tricky, take a l-o-n-g coffee break and then get back to it.

Lastly, keep the kids away. Seclude yourself from distractions so you can fully concentrate on the sewing project. I promise that you will come away with a very attractive down-filled garment.

And if you start now, you'll have plenty of time to outfit yourself and family before cold weather comes again, as surely it will

Extra's: A good first step toward self-sufficiency is the planning and planting of a small garden. Store empty canning jars upside down in cartons—keeps them much cleaner. Save money—a bar of plain brown household soap goes a long way in cleaning chores. Whenever egg whites won't beat up for meringue pie, top it with instant lemon pudding instead, reducing milk by a half-cup. Keep refrigerated.

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MANY nature trails, where hikers and walkers can examine wildflowers, crisscross various parts of the state.

Capturing The Wildflower Trophy

By Les Rountree

APRIL IN Pennsylvania is something special! While the first day of spring officially occurs during the blustery month of March, April marks the real beginning of spring in most parts of the Keystone State. The persistent fingers of snow have usually given up their hold on the mountainsides and, while a snow flurry or two may still fall, winter has been beaten once more. The outdoor rambler usually finds woods-walking soggy, but the sun is warm and the bright yellow-greens of new leaves are beginning to make themselves noticed. Birds are busy in the trees; while the tendency is to look up at the birds or straight ahead when walking, the spring hiker should also remember to look down. There, on the forest floor, another season of colorful ground activity is also taking place. The wildflowers are getting their act together again.

For many years, I treated wild-

flowers much as I did songbirds. It was a case of benign neglect. I acknowledged that they were there, but after that . . . so what? Oh sure, I admired their colors and their seasonal predictability, but I didn't really care much beyond distinguishing a dandelion from a violet. Later, I began trying to identify more of them. This didn't come to me in a blinding flash, nor was I inspired by anyone else. It just sort of crept up on me without my knowing it.

It was on a trip to New Brunswick some years back that I first realized that I was studying flowers. I spotted a small, pale-blue flower pushed up between a nest of dead leaves and was surprised to recognize it as a species we used to call liverwort when I lived in Potter County. It is the hepatica, and I have since discovered that this multi-shaded flower grows all up and down the east coast from Florida to Nova Scotia. I subconsciously cataloged my



SHOWY TRILLIUM is one of many beautiful wildflowers found in the Keystone State. Indiscriminate picking has reduced this species' numbers.

hepatica "find," not because it was unusual but because I had found what I had assumed to be a northern Pennsylvania variety in another country. No big deal, since the hepatica is quite common. But from that insignificant happening to the present, I am continually finding myself much more aware of nature's floral arrangement.

Just walking around the woods is fun enough, but if some effort is made to mentally catalog the birds and flowers spotted, a casual walk takes on a new importance. It's important to you if not to anyone else. Just knowing more about the flora and fauna makes everyone a better outdoorsperson.

Let's go back to that lowly dandelion for a minute. It's a reasonably safe statement to say that any place in the world that man can exist, the dandelion will be found. I've seen it on the edges of the arctic tundra and the fringe of the California desert. Maybe in the grand design of things this was carefully planned. I don't doubt for a second that many plantings of dandelions in odd and exotic places occurred by accident, but just look around the next time you're traveling out of state.

A standout feature of the dandelion is that it can be eaten. The tender greens, when gathered early in the spring,

make a terrific salad served with a hot bacon dressing—and for those who know how to make it, dandelion wine is considered an excellent tonic. For childhood fun (before the child becomes a lawn caretaker), no other plant can be utilized in so many ways. Kids make chains from dandelion stems, necklaces from the blossoms and create mass paratrooper landings by blowing on the heads after the downy seeds have formed. (Maybe kids don't do these things anymore, but I did and I'll bet most of you readers did too.)

Another spring special that the hiker should be on the alert for is the bloodroot. No more-beautiful white blossom is found in the woods. It pops up in wet areas after the first full week of balmy spring weather. You've got to be on the spot, however, because the flower bud will rise, bloom and be gone in a few days. Several white blossoms will rise up from one root and the way they grow is unusual. The flower stem and the leaf stem begin as one fleshy looking "bud." Just about the time the flower's ready to bloom, the two stems part company and develop independently. The star-shaped flower with the yellow center is magnificent, and a mass of bloodroot growing on the brown forest floor is spectacular. The name bloodroot comes from a crimson juice that pours out of the root when cut. It's a powerful dye; some authorities say the Indians used it as a coloring for garments and warpaint.

No early season trout fisherman who walks the banks of the northcentral Allegheny streams can avoid seeing the trout lily. Small children like to call it adder's tongue because the stamens look like a snake's tongue. Call it what you want to, but without the trout lily it just wouldn't be spring. The mottled green leaves are the positive identifying feature of this early flower. They



re dark green with speckles of pale yellowish green.

Another common spring flower and one that sticks up high enough to be seen at long distances is the red trillium. Everything comes in threes on this Pennsylvania favorite—the tall stem sports three huge pointed leaves, the blossom consists of three red petals, and behind that are three greenish-brown sepals that stick out alternately between the red ones. There are more than a dozen varieties of trilliums but the red *Trillium erectum* is the most common. At some locations the red and the white trillium (*Grandiflorum*) will be found together, but usually they grow separately.

Watch for Trilliums

The turkey hunter should be especially watchful for trilliums, for this usually indicates a popular scratching ground for wild turkeys during the winter and early spring months. The tuberous roots of both the trillium and the spring beauty are favorite foods for these big birds. This information was revealed some years ago in GAME NEWS and pooh-poohed at the time by many barbershop biologists. It has since been positively proven, by studying the crops of spring-killed turkeys, that the birds do indeed utilize the roots of these plants. In some areas, these roots may be the most important source of early spring and late winter food. By that time, the mast and leftover crops are just about gone.

Jack-in-the-pulpit is another spring-time favorite that seems to help "fight" winter away. It begins to grow early in the spring and lasts a long time in various stages of development. A deep purple and white striped hood guards the tube-like flower within. Jack-in-the-pulpit is related to the common skunk cabbage. The jack's hood and stem change character as summer comes around, becoming a cluster of red berries. The Indians used to boil and eat the round root, but don't ever sample one raw. It will burn your mouth like nothing else in this world! Take my word for it . . . I tried it once and didn't get over it for two days.

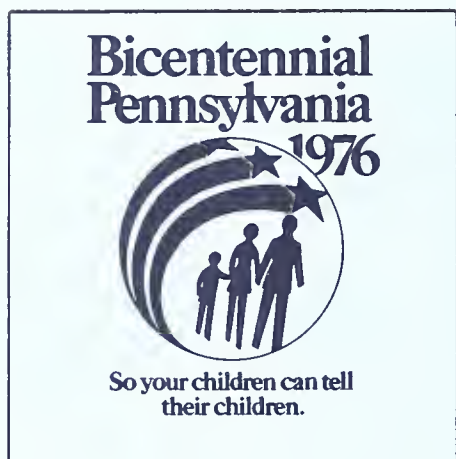
It can't really be called a flower, but



SOME OF the most common wild blossoms—but still very beautiful—are those gracing the many dogwood trees that grow throughout Pennsylvania.

the flowering dogwood is so common across much of Pennsylvania that it is one of our spring-time fixtures. The four slightly notched creamy-white petals on each blossom are breathtaking when massed together. A large patch of dogwood makes the semi-bare spring woods look like it is sprouting huge snowflakes. As the flowers mature, they frequently take on a pinkish hue, causing many old-timers to say that "the blood of Jesus" is upon them. The saying undoubtedly comes from the fact that the dogwood's always blooming by Easter Sunday.

As far as I'm concerned, the aristocrats of wildflowers are the moccasin flowers or lady's slippers. The pink variety is the one you're most apt to see in Pennsylvania. But you're on your own—wildflower watchers are jealous about telling others where to look . . . especially for lady's slippers. They don't want the flowers picked or dug up by the roots as some amateur gardeners are apt to do. (They don't usually take well to transplanting



anyway, so leave them alone.) In southern and central Pennsylvania, the pink lady's slipper will come on in April and a bit later in the northern counties. These are sometimes huge flowers with the moccasin part as long as two inches. Sandy or rocky woods are the places to look . . . but not too high elevation-wise. The even more spectacular yellow lady's slipper will be found in wetter locations where there is plenty of shade and perhaps some evergreen cover. The yellow ones bloom a bit later in the spring.

The rare pink-striped showy lady's slipper might be seen, but indiscriminate picking has nearly eliminated this beautiful member of the orchid family from our forests. If you do find one, or any lady's slipper for that matter, keep it to yourself. Photograph it if you wish, but don't reveal the location to anyone but a true wildflower lover.

Many persons feel that it doesn't injure the future supply of some wildflowers to pick a few blossoms for drying or pressing, but I don't recommend that you do it. A far better way to collect flowers is through the use of photographs. Take the picture where the flower is growing and you'll have a permanent record of your trophy. There are many good single lens reflex

cameras on the market today that don't cost an arm and a leg, and they're perfectly suitable for photographing wildflowers. The biggest problem will arise from poor light conditions. If the flower is in bright sun, no difficulty. Work yourself into a position where the light is shining on the face of the blossom and move in just as close as the lens will allow.

The very best lens for flower-snapping is the macro. It allows the photographer to move to within inches of the subject, and fine detail is the result. In shadowy locations or on dull days, a compact strobe light is the answer. Fill-in flash will light up the entire flower and while delicate shadows will not be seen, you'll have a good reference photo for future study.

The outdoorsman's ability to recognize and correctly identify many species of wildflowers will not necessarily correct any of the world's great faults. But on the other hand, it might. A full appreciation of what's there in the woods can't help but make anyone a more well-rounded individual and the kind of person that *you'd* like to share the woods with. It isn't a sissy pursuit or something to be laughed at. The finest hunters, fishermen and outdoor types I've ever known always take time to admire the singular beauty of a wildflower. Such appreciation is what separates us from the uncivilized creatures.

When I was a kid, there was a sign just outside of St. Marys in Elk County offering the following admonition:

"Pluck not the wayside flower
'Tis a traveler's dower
A thousand passersby
Its beauty may espy."

The sign isn't there anymore, but I can still remember the huge clump of blue violets that bloomed about its base each spring. Those particular wildflowers were never picked!

Built-In Sunglasses

The orange coloring in a prairie dog's eyes permits that animal to withstand the intense glare of the sun.



INFORMALITY IS the rule of the day as business affairs of Pro-Bows are handled by Laverne Woock, Cedar Falls, Iowa.

A New Move

Pro-Bows in Pennsylvania

By Keith C. Schuyler
Photos from the Author

UNLESS YOU are familiar with Potter County, you will have to get a map of Pennsylvania to find Cherry Springs. Even then, you must look close and follow Route 44 south out of Sweden Valley from Route 6. At least I did when trying to locate the site of the 1975 meeting of the Professional Bowhunters Society.

For, Cherry Springs Sallade Flying Service, the only business place, is merely an exhaust stop on the civil air lanes, but the Springs also boasts an attractive building in the nearby Susquehannock State Forest picnic area. It was here that the meeting of the international sportsmen's group was planned for the weekend of October 3-5. This would give all those attending an op-

portunity to hunt in the open areas surrounding the camp facilities at Cherry Springs before and/or after the meeting. It was one reason for choosing Pennsylvania for the October session.

Heading up the meeting was Laverne E. Woock, Cedar Falls, Iowa, 1975 president of the organization that has members in Canada, Alaska, Japan and Australia. At the October get-together eight states were represented. Members came from Kentucky, Virginia, Ohio, Maryland, New York, Missouri, and, of course, Iowa and Pennsylvania.

An invitation letter to the wide-flung organization from Tom Shupienis, Masury, Ohio, provided an interesting insight into the area from one who

speaks of "over 20 years of bow hunting in Pennsylvania."

It said, in part: "Although the majority of the hunters prefer stand hunting in the mornings and evenings, one can hunt the woods throughout the day. Posting in a secluded oak or cherry or beech grove that the deer are working on can produce action any part of the day, and still-hunting generally gets some action. Quiet drives by small or large groups usually provide shots. The weather generally at this time of year is pleasant. It could frost at night, but the days are usually just right for hunting. On warm evenings one might be annoyed by little gnats that try to get into your eyes, so a head-net might be useful. It could rain, so include rain gear. It might even snow, but if so, it shouldn't last long.

"There are rattlesnakes in these areas I've never encountered one during archery season taking the regular precautions one does when in snake country Bring plenty of arrows, your camera, and a compass I urge everyone to be absolutely sure he has a compass with him at all times"

Valuable Hints

Tom's letter was loaded with other valuable hints that would be appropriate to anyone hunting northcentral Pennsylvania for the first time. But, this was directed to some 500 members of the Professional Bowhunters Society scattered over a substantial part of the globe. Of the 25 who attended the session, 60 percent were from out of the state, a good number, considering that bow-hunting seasons were open in many states. Most of the hunting was by residents, but does were taken by Howard Clark of Middlesex and Shupienis.

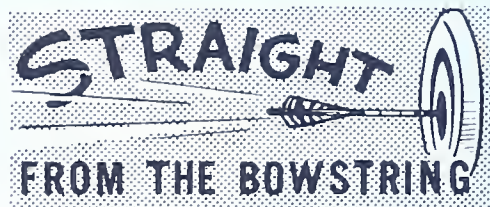
My first contact with the hunting pros was seven years ago through correspondence with the hard working and most dedicated executive secretary, Roger Rothhaar, Oceola, Ohio. Although the group, formed in 1960, had acquired some status and national recognition during its first eight years of existence, the name appeared to be a handicap.

The general connotation of "professional" in sporting ranks covers those who compete for money. However, the Professional Bowhunters Society adopts the less familiar definition of professional. According to the latest unabridged dictionary on my shelf, Webster's Third New International tome takes sides with P.B.S. Its preferred (first) definition of *professional* states, "of, relating to, or characteristic of a profession or calling," or "engaged in one of the learned professions or in an occupation requiring a high level of training and proficiency," or "characterized by or conforming to the technical or ethical standards of a profession or an occupation."

It still might seem as though the pro-bows are stretching a point until you take a look at their requirements for membership. Included are: ultimate aim and interest is the taking of wild game by bow and arrow of suitable weights in a humane and sportsmanlike manner promoting bowhunting by working to elevate its standards and the standards of those who practice the art of bowhunting to practice the wise use of our natural resources, the conservation of our wild game and the preservation of the natural habitat thereof have a minimum of three years bowhunting experience be of good moral character use regularly in all phases of archery and bowhunting a bow having a minimum weight of 50 pounds at the bow hunter's natural draw, and arrows having a minimum weight of 450 grains.

The only mention of money is an annual membership fee of \$10. It takes an extra ten spot as an initiation fee for the first year.

Although there was never any argument from this quarter on the aims and ideals of the P.B.S., the thought





PART OF the group, which represented seven states. Many of the archers hunted the surrounding area in Potter and nearby counties.

persisted that use of the word *professional* might prove controversial. Then, in 1975, Pennsylvania Professional Bowhunters Society emerged from the flats around Lake Erie. If you can spend five minutes with the enthusiastic president, Bruce Barber, and not become sold on P.P.B.S., you have more resistance than a tramp at a soap sale.

Actually my first personal contact with the pros came at Tri-Boro Archers, originally made up of members from Girard City, Fairview and Lake City. Club grounds border the edge of Lake Erie. It was from this club in May of 1975 that a nucleus was gathered for Pennsylvania Professional Bowhunters Society. Barber, spearhead for the move, was a natural as bowhunting chairman for Erie County Council of Sportsmen's Clubs. With this emphasis on bow hunting, membership in Tri-Boro Archers jumped from 21 to over 100 in but three months.

The new state society felt that anti-hunting groups were composed of professionals, and it would take those with a professional attitude toward bow hunting to counteract the unfavorable publicity the anti's were spreading

about hunters in general and bow hunters in particular. The Erie area group, seeking help, found it in the international society of bow hunters. (Some were present at the Cherry Springs meeting in October.)

Meanwhile, things at Tri-Boro continued to pick up with the new emphasis on bow hunting. The interesting field course on 54 acres was staked out at unknown distances up to but 40 yards, and half of the targets were permanently assigned animal faces. Although the club started in 1961 with 100 members, it had sifted down to 30 members. It came back fast. It was still functioning on an initiation fee of \$3 and \$2 annual dues, but plans were in the making for a more realistic financial base.

About half the club members are from Erie and surrounding communities, and there is one member from Ohio. The average bow shot by the club weighs 60 pounds, rating from 50 to 75 pounds. At this writing Bruce Barber has an order in for a 100-pound Jennings compound. The club played host for the Northwest Regional Shoot on August 31, 1975. The somewhat remote club land is located two miles

northwest of Lake City on Route 5.

Bruce gives much of the credit for the Tri-Boro Club's current advancement to President Ray Younger and Vice President Steve Watson. They in turn have had considerable help from John Bonnett and Harry McClellan, charter members who do more work than shooting, and others. It, of course, continues as a separate entity.

The fledgling pro-bows, leaning heavily on the international society for help and advice, developed their own identity as a state organization under a corporate charter as Pennsylvania Professional Bowhunters Society. There is some deviation from the parent group in qualifications and emphasis, although there is no departure from basic philosophy and adherence to a strict code of honor and ethics.

For example, there is a minimum qualification based on success with the bow and arrow in Professional Bowhunters Society. However, the Pennsylvania group states, "We wish to make it very clear that no way is an applicant evaluated solely by percentage of bow kills or his expertise with a bow. We wish to attract members of high moral standards dedicated to the sport of bow hunting and conservation—men willing to give of their time and talents to help insure our sons' inherent right to roam the hills, paddle the streams and travel our bowbending trails—men who will conduct themselves professionally in every respect of the bow-hunting sport."

50-Lbs. Recommended

Although the state group requires a minimum bow weight of 45 pounds at the archer's natural draw, compared to 50 pounds for the world hunters, the higher weight is recommended. Both groups strongly oppose the poison arrow in any form.

At last count (although the corporate meeting was scheduled for January after this writing), Barber, of Erie, was president, and Larry Frederick, New Bloomfield, was executive vice president. There were four vice presidents: Denny Russin, Edinboro; Bob Russin, Girard; Bill Lawrence, Girard; Mike Marsh, Corry. Ed Gross,



BRUCE BARBER, of Tri-Boro Archery Club and president and founder of Pennsylvania Professional Bowhunters Society, in full hunting gear.

West Springfield, was secretary-treasurer. Regional representatives included: Bill Ressey, Norwood; Ron Steffy, Mayport; John Hershey, Lititz; Tom Martz, Fairview. Dave Reynolds, membership chairman, lives at 3160 Norcross Road, Erie 16510.

From a standpoint of convenience and initial interest, it was natural that most of the charter members came from the area around Erie where the idea germinated. However, the organization has had a fast move across the state and membership continues to grow.

To quote from the P.P.B.S. membership brochure, "Bow hunting is the primary archery interest of the membership and the ultimate aim is the proper harvest of wild game with bow and arrow in a humane and sportsmanlike manner. The training of bow hunters in safety, shooting skills, hunting techniques, woodland skills and landowner use of our wild game and the preservation of their natural habitat are other prime objectives. The P.P.B.S. requires its members to use razor-sharp broadheads and heavy

bows to ensure quick, clean kills. The impetus of the P.P.B.S. has been directed not to the taking of large numbers of game animals, but rather toward the taking of game animals in an ethical, humane manner . . . a manner which enhances the hunter's character, not his fame."

The preceding approach, nevertheless, does not preclude membership programs to recognize trophy animals, conduct training clinics, participate in group hunts, sponsor bowfishing derbies, and other activities. In fact, one of the aims is to conduct programs which will bring together those of a like mind to foster and protect the sport of bow hunting in all its phases.

Despite the close ties in fraternal and ethical approach, there is no formal link between the state and international organizations. Membership in one carries no affiliation with the other.

Aside from the reportorial nature of this month's column, there is a two-fold purpose in presenting what is happening across the country and particularly in Pennsylvania in this time of real crisis. Concerned outdoor sportsmen are shouldering the responsibility of cleaning up their own ranks, and, at

long last, they are doing it together.

The natural tendency to be excited only about what appears to affect one personally is to be expected. However, when there is such obvious and ill-advised support of anti-hunting and anti-gun movements by the general news media, all hunters and genuine nature lovers must stand together.

Possibly a quote from Bruce Barber's president's message in the first newsletter of the Pennsylvania Professional Bowhunters Society carries a special meaning for the outdoorsman who has never found it convenient to become involved.

"Game commissioners, outdoor writers and countless others have been standing to the fire with the anti-hunting movement too long. It's high time we pitched in and offered a pound of flesh in defense of our hunting heritage."

We add the words of the English philosopher, Martin Tupper: "Where is a sharper arrow than the sting of unmerited neglect?"

A new quiver of concern for bow hunting and bow hunters is being worn in Pennsylvania. Let's hope it is never dropped.

Available Publications

The following publications are available from the Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. Prices quoted include taxes, handling and postage.

GONE FOR THE DAY, by Ned Smith. All of the outstanding columns and artwork which appeared under this title in **GAME NEWS** during a four-year period. Delightful reading for everyone. 216 pp., \$2.50.

THE WHITE-TAILED DEER IN PENNSYLVANIA, by Stanley E. Forbes. Detailed information on all phases of the whitetail's life. 40 pp., 50 cents.

BIRD AND MAMMAL CHARTS, by Ned Smith. Set 1 (20" x 30") \$2.00. Winter birds, marsh and water birds, waterfowl, birds of prey. Set 2 (20" x 30") \$2.00. Mammals of farm and woodlot, mammals of the mountains, birds of the forest, birds of field and garden. Set 3 (11" x 14") \$2.25. All eight charts listed in Set 1 and Set 2. Individual charts not sold in either size.

Sadly Overlooked

By Don Lewis

Photos by Helen Lewis



GUN COLUMNIST Don Lewis with Remington Model 1100 28-ga., beagle Whitey and the result of a chase.

The echoing of a half dozen shots brought my brother Dan and me to a sudden halt. We were on a ridge overlooking a stand of heavy timber. Dan listened for a few seconds to excited sounds coming from below, then motioned me to follow. A hundred yards into the timber we came on a group of hunters milling around a large oak. As we approached, one hunter cut loose a booming shot into the top branches without any apparent result. An older hunter yelled for a ceasefire,

and told one of the group to go home for his long tom 12-gauge single barrel.

When our presence was noted by the older man, he asked if either of us had a long-barrel 12-gauge. Finding out Dan's double was a 16-gauge and mine a mere 20, he just shook his head. He explained a squirrel had been hit on the ground and had taken refuge in the top branches of the large oak. Their efforts to dislodge it had been unsuccessful.

During the long explanation, Dan had been surveying the top of the tree, and as the youngster started to leave for the 12-gauge single barrel, Dan stopped him. Casually he told the group he could bring the squirrel down if they had no objections. A moment of silence followed his remark, and then came a burst of laughter. In short order they told Dan it would be impossible for him to do it with a 16-gauge when they had failed with several 28-inch 12-gauge outfits.

When the laughter at Dan's little Crescent 26-inch double ceased, he was told to show what his peashooter could do. I'm not sure if Dan's location gave a clear view of the squirrel or he was banking on the tightness of his full choke barrel, but when he opened the gun and stuffed in a load with 7½ shot, the group claimed Dan had seen too many squirrels. They wanted to know how he could do it with 7½s when they had failed with 4s.

If Dan heard them, he paid no attention. Without any fanfare he dropped the squirrel. When the gray hit the ground, the faces of Dan's critics registered sheer disbelief. I knew little about ballistics in those days, and I was just as puzzled as they were as to how the 16 could outshoot the powerful 12. Mentally, I agreed with the group that a 12-gauge had to shoot harder than a 16.

Later on that day, Dan explained to me that one gauge did not throw its

shot any faster than another and that with a given weight of shot and a given choke, it did not matter much whether a hunter was using a 12-, 16-, or 20-gauge. In this particular shot at the squirrel, he had had better luck than the 12-gauge shooters because he had used a load of 7½s, which gave a denser pattern than the others were getting with their 12s and large shot.

When this incident took place, the 16-gauge shell enjoyed an immense amount of popularity. Now, nearly four decades later, it has almost been relegated to the junk pile. Many small game hunters don't consider it a genuine hunting shell, and worse yet, gun companies are shying away from the 16-gauge and are going all out for the 3-inch 20. I have always tried to keep from getting involved in controversial matters, but I don't mind pitching in my two cents in defense of the old 16.

I have no idea why the 16 fell by the wayside, for it could well be the top choice for the small game hunter. It outperforms the 2¾-inch 20, and can match with ease the output of the 3-inch 20. The 16's case holds 1¼ ounces of shot, which puts it on par with many 12-gauge field loads. The only advantage the 12 has is its capability of handling 1½ ounces of shot in the regular case and up to 1⅞ ounces in the 3-inch case.

A close study of 16 loads will show how versatile it is. In reality, it should be classed as a combination outfit. It can be loaded down to a 20 and up to a 12. That in itself should show the value of the 16. I've always thought the physical makeup of the 16-gauge case made it easier to reload, especially in the field load category. In other words, I found the 16 to give better results with mild field loads designed primarily for rabbit and grouse hunting.

Somewhere along the line, hunters lost interest in balanced ballistics and cried out for power loads. This is true with both the rifle and shotgun. Most new handloaders dream of concocting super loads, and the trend towards maximum power has engulfed our thinking. For years, the air has been filled with nonsense and propaganda, but let's clear the air and come face to face with reality. We've been fed a steady diet of "long range power," but the fact remains that most small game hunting is done at ranges under 40 yards. For several seasons I stepped off, as best I could, every rabbit shot. My average was just under 30 yards. I think this would hold true around the state, and it shows that good shooting is more of a requisite than power.

All About Equal

Another thing that bothers me a great deal is the adoration poured on the 3-inch shell because the belief exists it offers much more power. Dan was right when he claimed all gauges were about equal when it came to velocity and distance, and there's no truth in the common belief the 12-gauge load travels significantly faster than loads from smaller gauges. Surprisingly, low brass trap loads hit velocities nearing the 1200 fps mark, and this is only 100 feet or so per second less than the high speed loads offer. And out where the game is hit, the difference is much less, for high speed loads lose velocity faster than those of lower muzzle velocity.

Barrel length is also a confusing factor. I'm sure I hurt the feelings of a hunter who asked me how much farther a 32-inch barrel shot than a 26-inch barrel with the same choking. My reply of "six inches" may have had little ballistic foundation, but I think it's close to the truth. The main advantage of the longer barrels is the smooth swing and good follow-through that their inertia gives them once they're in motion.

Now that we know the 16-gauge carries an impressive array of hunting loads, it's plain to see it didn't die because it was inadequate. It always had plenty to offer, and still does. It could be that the upswing in trap shooting, where the larger 12-gauge dominates,





AS A HUNTING shell, Lewis ranks the 28-gauge well above the 410. The 28 delivers more shot and has less holes in the pattern than the smaller 410.

had a detrimental effect on the 16, but there's no real ballistic basis for sticking strictly with the 12. The 16 is capable of doing an excellent job with the 1½-ounce trap load, and my only concession would be to admit that the 12's pattern may be more consistent on the outer edges.

The fact the 16 is a "middle gauge" between the 12 and 20 should make it desirable. Compromises are often fine choices for average demands. Not realizing this could have led to the 16's demise. Few 12 users want to take what to them seems a step backwards, while the surge of acclaim showered on the 20 during the last decade prompted many older hunters to settle for a shell that didn't have a severe backward thrust. I can understand the desire for less recoil, but by making the switch back to the 20, some of the 12's advantages were lost. Stopping at the 16 could have given the hunter many 12-gauge loads and still solved some of the recoil problem.

When I showed a hunting companion my Ponsness-Warren 375 Du-O-Matic press set up with 16-gauge dies, he laughed out loud. He was shocked that I would be cranking out 16-gauge fodder even for writing tests. As far as he was concerned, the 16 was the top

choice for obliteration. When I showed him loads with 1¼ ounces of shot that would hit over 1200 fps, he lost some of his critical attitude. When I convinced him I could duplicate most 12-gauge loads, he claimed the old 16s he carried were too heavy. But he couldn't explain why he owned several 12-gauge pumps that pulled the scale's pointer to well beyond 8 pounds.

When I can easily muster up a load of 1½ ounces of shot that has a muzzle velocity of 1300 fps, I'm not about to think the 16 is out of touch with the times. It's just as easy to send 1¼ ounces of shot on its way at over 1200 fps, and that's equal to a lot of 12-gauge field loads.

In summing up my plea for the 16-gauge, I'm chagrined to say there are many fine outfits available for prices much less than new factory outfits. I'm not implying there are Purdeys, Westley Richards or even a flood of L. C. Smiths available, but there are Ithacas, Lefevers, Model 12 Winchesters and a host of other makes that have been simply set aside, and many of these can be purchased for reasonable prices. Usually, the hunter with the 16-gauge is carrying a lighter, faster-swinging outfit than the 12-gauge fan. Toward the end of a long day, less weight is an obvious advantage, particularly when it was carried without sacrificing anything on the ballistic side.

Quite a Downgrading

While the 16-gauge has taken quite a downgrading during the last decade or so, it still has more followers than the 28-gauge. Here again, it's not a case of the 28 being inadequate for some situations, but of not knowing the facts. I wouldn't make that statement if the 410 bore didn't rate so high among beginning hunters. It's not that the 410 bore is better—for it certainly isn't—but because less is known about the ballistics of the 28. Most readers know I am not an advocate of the little 410. The true expert who confines his shooting to short range can handle the ½-ounce shot charge with efficiency, but to me, the 410 has no place in the hands of novice hunters.

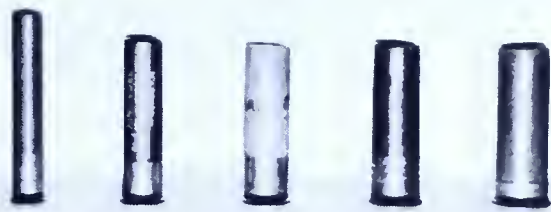
As a hunting shell, the 28-gauge is practically unknown in Pennsylvania, but after using a sleek Remington 1100LW 28-gauge for several seasons on rabbits and grouse, I'm convinced this gauge stands head and shoulders over the 410. My main criticism of the 410 bore is its very light shot charge. A half ounce of number 6 shot is about 112 pellets. At normal shooting ranges, this doesn't offer much in the way of a dense pattern. The 28-gauge carries from $\frac{3}{4}$ to a full ounce, and adding another 50 to 100 pellets to a shot charge is significant.

Ninety feet is not a long shot by any means, but brush, briars and grapevines subtract a fair percentage of pellets from the shot charge. By the time the charge reaches 90 feet, it's beginning to open, and the extralight shot charge leaves plenty of gaps.

I haven't patterned the 410 bore enough to give a comprehensive report on what certain loads will do, but I have always felt the tiny bore, which gives a long shot column, deforms a lot of pellets which fly off at odd angles and are lost from the pattern. The avid 12-bore buff will claim the same thing about the smaller 16- and 20-gauge outfits, but I doubt if either of these has as high a percentage of deformed pellets as does the 410.

My defense of the 16 rests squarely on the fact the 16's case is capable of holding some load combinations equal to the larger 12. My criticism of the 410 is that it doesn't offer a large enough shot charge. Since shotgun pellets aren't precisely aimed, the hunter must depend on a saturation approach to killing power. Every pellet that hits game contributes to the kill. Shock is nearly as important as having pellets hit the fatal areas, and the only guarantee the hunter has that this will happen is to use a shot charge equal to the game he is hunting.

I have heard hunters refer to the 410 bore as a toy, but this is not true. The shot charge from the 410 strikes just as hard as one from a large gauge, but there are fewer pellets in it. On the other side of the coin, I've listened to spectacular claims for the 410 as a squirrel gun, but again I find it hard to



A COMPARISON of shotshells mentioned in article. From left to right are the 410, 28, 20, 16 and 12 bores. Of the five, 410 is lightest load.

go along with such thinking. Obviously, at close range the 410 has killing potential, but on shots beyond 20 to 25 yards, I can't buy the little shotshell as a squirrel getter.

I don't want to be overly critical of those who use the 410, but I think if a small shotshell is necessary for either the lady hunter or a youngster who may have recoil fears, the 28-gauge is a far better and wiser choice. There is no significant difference in the recoil effect between the 410 and the 28, but there is a distinct ballistic advantage with the latter. Its heavier charge means a denser pattern, and a higher chance for success.

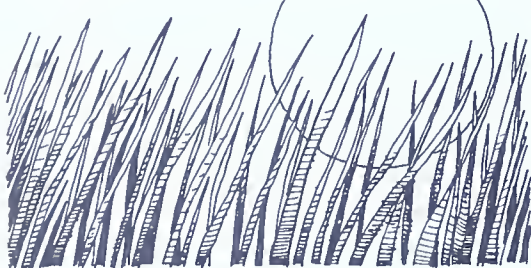
What's in store for the 16- and 28-gauge shotshells? Well, I can't visualize a mad rush to the sales counter, but I would like to entertain the hope more Keystone State hunters will heed my advice. The old 16 is unquestionably one of the best, and can be used on anything from quail to waterfowl. The 28 will still have tough sledding, and it will remain a sad fact that a great many wives and youngsters will be handicapped with the 410 bore when the 28-gauge would do a better job.

Very little has been written lately on either the 16 or 28 outfits, and I hope this column will ignite a flame that will shine bright enough to show the true value of both shells. I would like to think a lot of unused 16s will be dusted off for the season ahead, and that the 28 will get a chance to prove to hundreds of hunters its real worth. In fact, it's time both shotshells get renewed life and are no longer sadly overlooked.

In the wind

chuck fergus

information writer



An energy-saving law designed to cut heating and cooling bills in half is now in effect in Davis, Cal. Enacted last year and believed to be the first such ordinance in the U.S., the law requires new homes to harmonize with the local climate for maximum energy efficiency. Buildings must meet minimum insulation standards, have light-colored roofs and windows limited in size and designed for best use of the sun.

A 20-mile segment of the nation's largest coral reef, which stretches 150 miles along the Florida Keys, is now a marine sanctuary. Located off Key Largo, the new sanctuary is the second to be designated under the Marine Protection, Research, and Sanctuaries Act of 1972.

The municipal sewage sludge of Bangor, Maine, is being converted into compost for use as a soil conditioner and mulch on city parks, a golf course and other public lands. Heat generated by the process kills all disease-carrying bacteria and makes the compost safe for these uses. The compost, however, will not be used in agriculture at present, as long-term investigations must be conducted to determine whether the nonbacterial contaminants in sewage sludge—such as heavy metals—might enter the food chain.

Polynuclear aromatics, suspected carcinogens, have been discovered for the first time in birds. Canadian Wildlife Service researchers found the PNA's (pollutants from coal combustion and petrochemicals) in herring gulls that breed on Lake Ontario near the city of Kingston. While the team did not find any gulls with cancer, it did find birds with birth defects.

The Library of Congress's Congressional Research Service reports that although only 10 percent of the national cancer research budget has gone into study of carcinogens in the environment, 70 to 90 percent of all cancer may be linked to pollution.

Plans to accelerate leasing for oil and gas exploration in frontier areas of the outer continental shelf are being carried out by the Interior Department. Despite opposition from environmental groups, Interior has scheduled lease sales to oil companies of 1.6 million acres off southern California, 1.8 million acres in the Gulf of Alaska, and one million acres in the Baltimore Canyon off the Middle Atlantic states.

With reports mounting about widespread environmental contamination by PCB's—industrial chemicals used in electrical transformers and capacitors—the Environmental Protection Agency has announced that it will establish requirements aimed at reducing to zero discharges of the toxic substance into waterways.

Wild horses and burros are displacing native wildlife in many areas of the West, the Wildlife Management Institute reports. Their numbers have doubled since 1971 and are growing at about 20 percent each year. Current inventories show over 50,000 wild horses and 5000 burros on public lands. Adversely affected wildlife species include elk and bighorn sheep.

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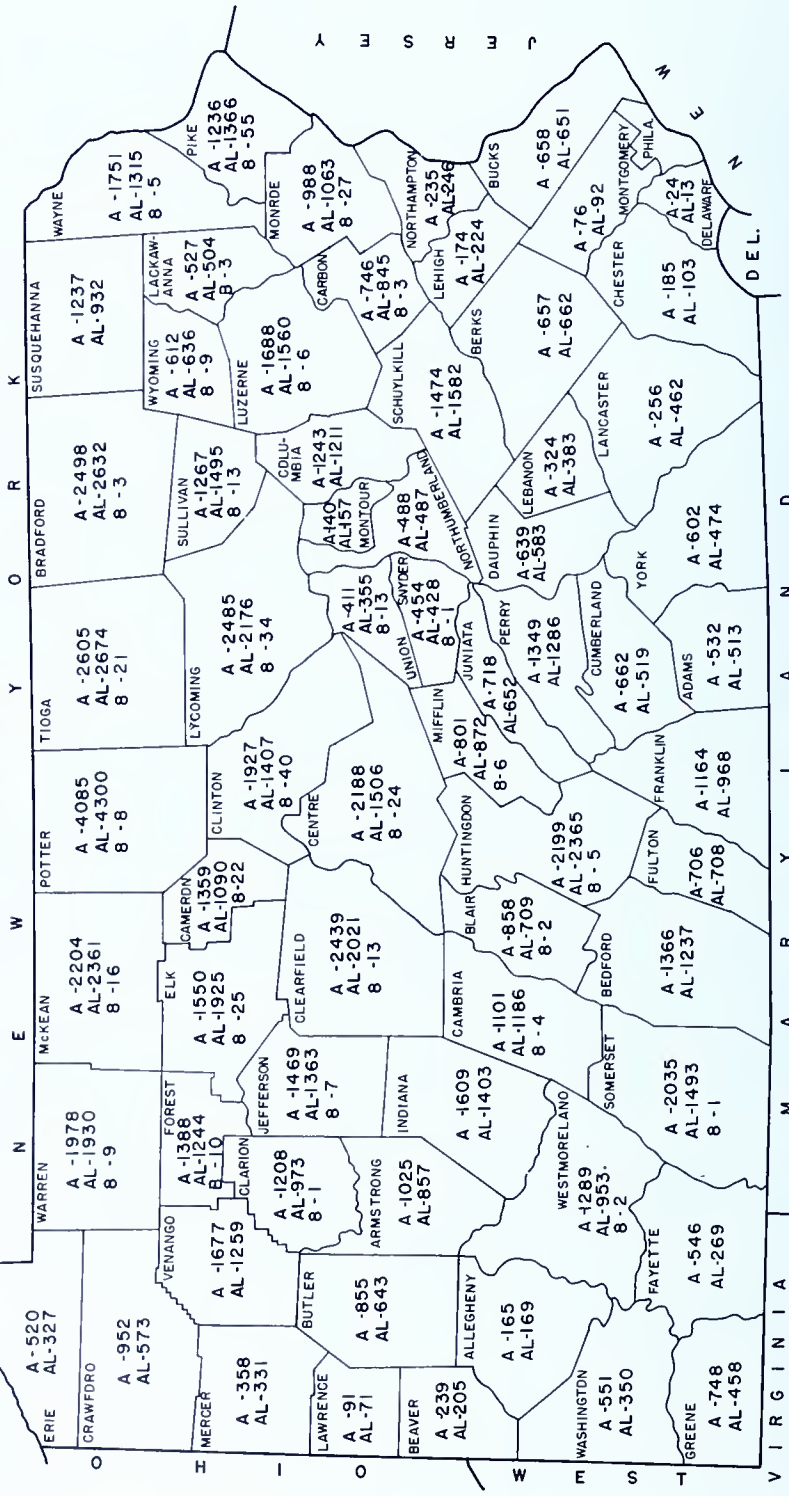
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1975

DEER & BEAR HARVEST

PENNSYLVANIA GAME COMMISSION
HARRISBURG



Grand total BEAR harvest 388
(SYMBOL-8)
Grand total DEER harvest .. 138,195

ANTLERED DEER (SYMBOL-A)		ANTLERLESS DEER (SYMBOL-AL)	
REGULAR SEASON	69,478	62,685	
COUNTY UNKNOWN	395	402	
ARCHERY SEASON	2,096	2,965	
Muzzleloader Season	17	157	
TOTAL	71,966	65,209	

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COVER PAINTING BY TAYLOR OUGHTON

Pennsylvania held its first spring gobbler season in 1968, and since that time more and more Keystone State hunters are participating in this thrilling sport. For many an outdoorsman, the sound of a wild turkey gobbling at dawn is worth getting up and traveling to a favorite stand in the dark. And there are more benefits: spring warblers, tanagers, bubbling woods streams, sun-stippled new leaves, the young of many other wildlife species. Basic to hunting is the satisfaction derived from getting closer to nature, on nature's terms—and going for gobblers in May is a great way to achieve this feeling.

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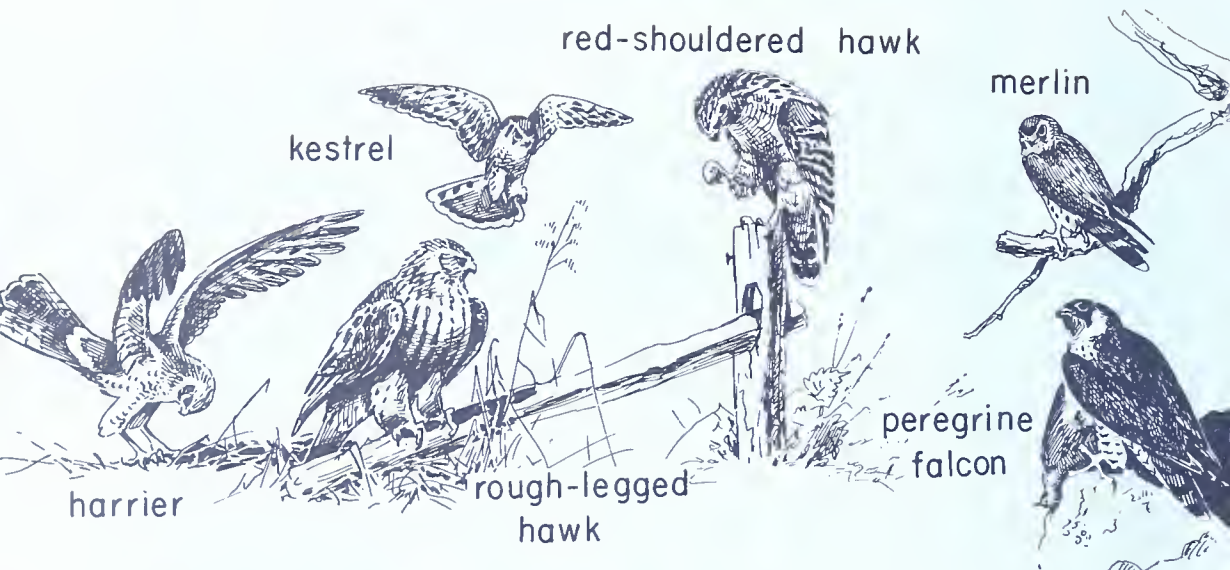
Friends and Protectors?

BACK IN THE FEBRUARY 1974 issue of GAME NEWS we ran a short item pointing out that almost all of the money raised by the California-based Animal Protection Institute (one of the groups hysterically opposing trapping, etc.) actually went to the purposes of that Institute, rather than to aiding wildlife in any way. Immediately afterward, we received a letter from the API claiming the item we used was untrue and considered by the API to be libelous. We passed the letter along to the Office of the Attorney General. After investigation, that office pointed out to the API that in order to solicit charitable funds in this commonwealth an organization must be registered with Pennsylvania's Commission on Charitable Organizations, that a search of the files indicated no such registration for the API, and that until the necessary forms and filing fees for the years 1971-74 were submitted the request for a retraction in GAME NEWS could not be evaluated. We heard nothing else from API on the subject.

We bring the matter up at this time only because the API has recently been in the public eye again—for the same reason originally mentioned. The Los Angeles *Times*, looking into the reasons for the rather large number of anti-hunting, anti-gun, save-our-animals organizations that have proliferated in recent years, reached the conclusion that anti-hunting propaganda which takes advantage of the kindhearted feelings of many humans can provide high personal income for a few shrewd operators. As an example, the *Times* noted that Belton P. Mouras is founder and president of the Animal Protection Institute, an organization that raised \$904,466 in 1974 (the last year for which information is available), mostly through a national advertising campaign that features dramatic photos of animals in various states of agony. Readers are asked to send tax-deductible contributions to API. Most of this money goes for expenses and to support Mouras and a staff of about twenty. Mouras himself apparently collected upwards of \$100,000 in salary, expenses and commissions (his ad agency handled all of API's advertising).

What "protection" do the animals get from the near-million dollars the Animal Protection Institute collected in 1974? Good question. California's Department of Justice is wondering about that too. A recent letter from them said in part: ". . . we note that the 1974 Periodic Report for Animal Protection Institute indicates the organization expended a large portion of its \$900,000 gross receipts on advertising, administration and salaries, *and does not appear to operate a shelter, clinic or other facility for animals* (emphasis added) . . . We shall appreciate your assistance in calling to our attention any specific information or complaints about Animal Protection Institute that you believe merit attention."

As long as money is the motivating force for a few people and the majority goes on reacting emotionally to their claims and pleas, rather than intellectually to the well-researched facts of wildlife biologists, the animals are going to go on getting the short end of the stick. Maybe that's the way the world has to turn. But occasionally the facts do come to light and some of us do wise up a bit. Maybe this is one of those times.—*Bob Bell*



RAPTORS

By Chuck Fergus

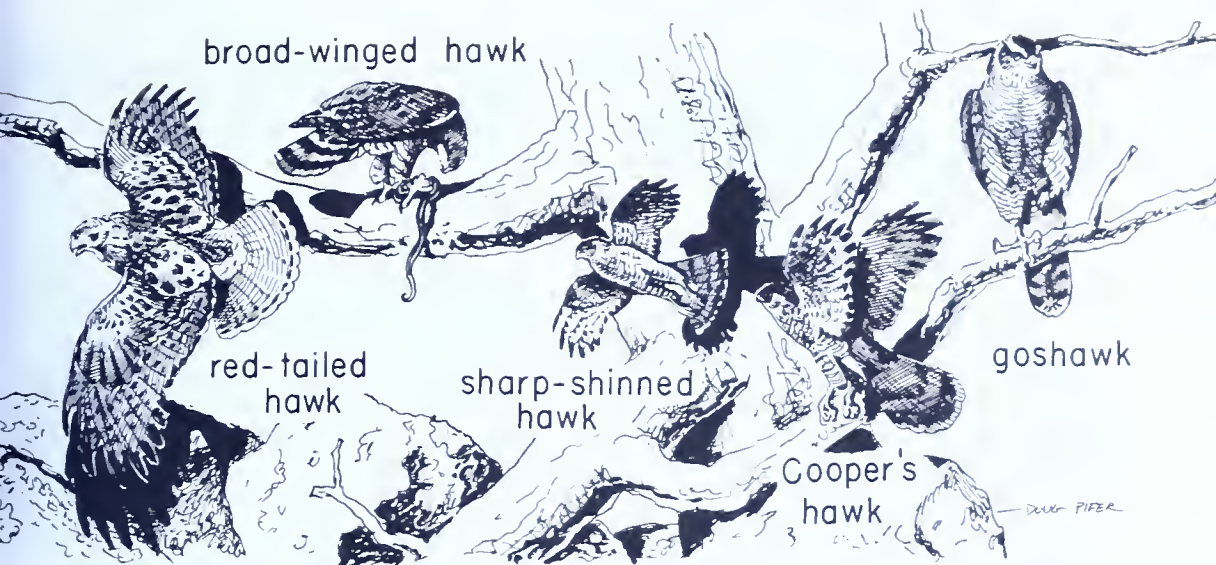
GAME NEWS Staff Writer

WHEN THE night sky brightens in the east, the owls retire to hollow trees and shady thickets. Then enter the raptors; during the day, these fascinating birds continue nature's winnowing process—predation. "Raptor" comes from a Latin word meaning "plunderer." It refers generally to all birds of prey and more specifically to eagles, hawks and falcons. This Wildlife Note covers 11 Pennsylvania raptors: the goshawk, sharp-shinned, Cooper's, red-tailed, red-shouldered, broad-winged, and rough-legged hawks, the harrier or marsh hawk, and the falcons—peregrine (duck hawk), merlin (pigeon hawk) and kestrel (sparrow hawk).

Raptors are quick, efficient predators. They have sharp talons and strong hooked beaks; bills and feet vary in size and shape according to the species' prey preferences. Eyesight of some raptors is as sharp as that of a human looking through 8x binoculars. The eyes of hawks and falcons are located in the front of the head; this gives the birds binocular vision and enables them to judge distance. Raptors' hearing is acute, but their sense of smell is poor—if it exists at all.

In hunting, raptors may soar high, sit and watch from a perch or strike their prey in midair. When a raptor drops to attack, tendons spread its feet; upon impact, the toes automatically clench and drive the talons deep. A snap from the hooked bill can crush a prey animal's skull or break its back. Raptors "mantle" prey after killing it, crouching and spreading their wings to form a shield that hides it from other predators. The bird may eat on the ground or carry its kill to a feeding spot, often a fencepost or tree limb, where it plucks its prey and tears the meat apart with its beak. Unlike an owl, a raptor does not swallow its food whole or in large chunks. Hours after eating, a hawk or falcon will regurgitate a pellet containing any feathers, fur or small bones swallowed accidentally.

Identifying raptors can be difficult. While males and females of the same species are generally of similar colors, individual variation often occurs within the species. Juveniles are especially hard to identify. Adult females are generally larger than their mates—in some cases, nearly twice as heavy. Our raptors have yellow feet and a yellow cere (area at the base of the bill).



Symbols of freedom, fierce predators, strong silent kings of the avian world. As a group, they're one of nature's most interesting manifestations. They are the raptors . . .

Many raptors mate for life. They nest high above the ground on sturdy limbs, in the crotches of trees, or on rock ledges. Generally, nests are loosely built of sticks and twigs; some are lined with feathers and down plumules. A mated pair will either remodel an old nest or build a new one, occasionally starting on top of a squirrel or crow nest. The female may begin incubation before the last egg is laid, resulting in young of different sizes in the same brood. The female does most of the incubating and is supplied with food by the male.

Newly hatched raptors are altricial—helpless, unfeathered and covered with down—but they grow rapidly. After about two weeks, when the young no longer require constant brooding, the female joins the male in hunting to feed them. The young soon learn to tear meat apart and feed themselves. After five or six weeks, when flight feathers grow in, they begin taking short flights; several weeks later, the fledgelings start to hunt.

Hawks and falcons help control insect, rodent and small bird populations. They are a natural predatory force which improves a prey species by

making it develop alertness, speed and other survival attributes, and by weeding out unfit individuals. Raptors are also environmental indicators. Pollutants accumulate in natural food chains, and predators are usually the first wild species to show ill effects: failure to reproduce, thin egg shells and nesting failure, or outright death through poisoning. Heavy metals and chlorine-based pesticides such as DDT, aldrin, dieldrin and heptachlor reduce raptors' numbers.

Many hawks and falcons fly south each autumn; species migrating in greatest numbers are often those whose food supplies are diminished. Some hawks that breed here winter as far south as Peru; during migration, a raptor can cover several hundred miles daily, depending on weather and wind condition. In our state, many migrating birds follow ridges paralleling the Allegheny Plateau, climbing high on thermals that rise along these ridges. Hawk Mountain, near Kempton in southeastern Pennsylvania, is a famous spot from which to observe migrating raptors.

Until fairly recently, birds of prey were often labeled "chicken hawks"



KESTREL is one of our smallest raptors and our most common falcon. In summer, kestrels take insects and occasionally birds; in winter, they prey on mice.

and shot on sight. Research has shown that while predators *do* kill some poultry and game, in most cases they do not drastically deplete game populations. Today, outdoor-oriented people get much esthetic enjoyment out of observing raptors. In Pennsylvania, hawks and falcons are protected under both state and federal regulations.

The 11 raptors covered by this note fall into four basic types: accipiters, buteos and harriers—often lumped together under the term “hawks”—and falcons. Accipiters (goshawk, sharp-shinned hawk, Cooper’s hawk) have small heads, long tails and short well-rounded wings. They fly with rapid wingbeats followed by a long glide; extremely maneuverable, they are well-suited to the thick forest areas they inhabit. Accipiters feed largely on other birds.

Buteos (red-tailed, red-shouldered, broad-winged and rough-legged hawks) have stocky bodies, broad rounded wings and short fanned tails. Most are brown in color; young are similar to adults, but in most cases are streaked lengthwise below, rather than barred. Buteos perch in open country or soar in wide circles when hunting; small mammals are their main prey.

The marsh hawk is the only harrier

found in North America. It is long-legged, with long narrow wings and a long tail. It soars with wingtips held perceptibly above the horizontal, much like a turkey vulture, quartering open country in search of prey.

Falcons (peregrine, merlin, kestrel) have large heads, broad shoulders, long pointed wings and a long tail. They are streamlined and built for speed, flying in a direct path with deep rapid wingbeats. They do not usually soar, although the kestrel sometimes hovers with rapid wing strokes. In hunting, the peregrine and merlin often fly above smaller birds and then dive to the attack, striking prey while in full flight.

Goshawk

Length, 20-26 inches; wingspread, 40-47 inches; weight, 1½-3½ pounds. Both immatures and adults have a prominent white line over each eye; the eyes of adults are bright red. Adults are blue-gray above and white below, with light barring on the breast. Immatures are brown above and creamy white below, with heavily streaked undersides. The largest of our accipiters, goshawks are seen in greatest numbers in winter, when food scarcities force many south. Also called “blue darters,” goshawks are swift, maneuverable and relentless, sometimes pursuing prey—birds and small mammals—through thick underbrush on foot. Goshawks breed in wooded areas and prefer wild territory and mountains. They nest up to 75 feet above the ground in trees, building bulky nests (3-4 feet in diameter). A pair often uses the same nest year after year. Eggs: 3-4, off-white and usually unmarked, incubated 36-38 days by the female. Goshawks defend their nests fiercely; voice is a harsh *ca ca ca ca* around the nest.

Sharp-Shinned Hawk

Length, 10-14 inches; wingspread, 20-27; weight, 5-9 ounces. Identification of this species is often difficult, as large female sharp-shins are nearly the size of small male Cooper’s hawks, which they closely resemble. Adults have red eyes and are blue-gray above,

with light rufous barring on the breast. Immatures are brown above, heavily streaked below. These are small hawks with short rounded wings and a long square-tipped tail. Sharp-shins feed almost exclusively on small birds such as sparrows, warblers, vireos, etc.; they fly and sail rapidly through the woods or hunt from a perch. Favored habitat is woodland, preferably coniferous, and woods edges. Sharp-shins breed throughout the eastern U.S. south to Alabama. They prefer to nest in conifers, about 30-35 feet up, usually building a new nest each year. Eggs: 4-5 white or bluish with brown blotches. Incubation is by both sexes, mostly by the female, and takes 21-24 days. Around the nest, adults make a *kek kek kek* sound; in flight, a shrill scream.

Cooper's Hawk

Length, 14-20 inches; wingspread, 27-36; weight, 10-20 ounces (slightly smaller than a crow). Adults look like large sharp-shinned hawks—red eyes, blue-gray back and a rusty breast—except the Cooper's have rounded tails and the sharp-shins have square-tipped tails. Named in 1828 after William Cooper, New York naturalist, Cooper's hawks prey mainly on birds the size of robins and jays. While hunting, they prefer to perch and wait for prey. Favored habitat is woodland. Cooper's hawks breed throughout most of the eastern U.S.; they nest in trees 20-60 feet up. Eggs: 4-5, white, incubated by both sexes but mainly by the female for approximately one month. Woods where Cooper's hawks nest may remain heavily populated with songbirds, as these raptors hunt away from their nest area. Call is similar to that of the sharp-shinned.

Red-Tailed Hawk

Length, 19-25 inches; wingspread, 46-58; weight, 2½-4 pounds. Upper plumage is dark brown, and the light undersides have a belly band of dark streaking. In adults, the upper side of the tail is rusty red; in young, dark gray. Red-tails inhabit deciduous woods. Primarily soaring birds, they prey on mice, birds, rabbits, red and

gray squirrels, chipmunks. Voice is a rasping *keer-r-r-r*, slurring downward. Red-tails breed throughout the East. They nest in trees 35-90 feet up, both sexes helping to build a stick-and-twigs nest lined with bark or green sprigs. Eggs: usually two, white and unmarked or with brown splotches. Incubation is by the female, for one month.

Red-Shouldered Hawk

Length, 18-24 inches; wingspread, 33-50; weight, 2-3 pounds. Adults are colorful birds: dark brown above with chestnut-red shoulders, rich reddish-brown and white below, tail strongly barred with black and white. Many individuals have a translucent area or "window" near the wingtips, visible when they are airborne. These buteos are shy and hard to approach; they favor damp woods, river bottomlands and swamps. They hunt from an exposed perch offering a wide field of view or by circling high overhead, and prey on rodents, birds, frogs and snakes. Voice is a piercing whistled *kee-yer*, which blue jays often mimic. Red-shouldered hawks nest 20-60 feet above the ground in trees. Eggs: 2-4, usually three, dull white with brown markings; incubation is by both sexes and takes about 28 days.

Broad-Winged Hawk

Length, 13-19 inches; wingspread, 32-39; weight, 13-20 ounces. This small buteo is easily recognized by its heavily banded tail, with two dark and two light bands. Upper plumage is dark gray-brown; underparts are white, heavily streaked with brown. The broad-winged is a hawk of the forests, preying on snakes, amphibians, insects and small mammals. It is our most common hawk, fairly unwary and approachable. During migration, broad-wings congregate along ridges in "kettles" of rising air, which they use to gain height. Voice is a high-pitched whistled *p-wee-e-e-e-e*. Broad-wings breed mainly in deciduous forests and construct their small nests 24-40 feet up in trees. Eggs: 2-3, dull creamy white with brown markings. Incubation (approximately 30 days) is mostly by the female.

IMMATURE red-tailed hawk. Red-tails are primarily soaring birds; they prey on mice, birds, rabbits, squirrels and chipmunks.



Rough-Legged Hawk

Length, 19-24 inches; wingspread, 50-56; weight, two pounds. This species exhibits two color phases, with wide individual variation in between. Light phase: upper side light buff to white, streaked with brown; underparts white, with a brown "wrist mark" partway out the wing and a brown band across the abdomen. Dark phase: black or sooty brown, with white at the base of the underside of the tail. Feet are feathered to the toes, hence the name "rough-legged." This large *buteo* often hovers over fields, beating its broad wings in short rapid strokes much like a kingfisher or a kestrel. Its small sharp-taloned feet are adapted to kill rodents—meadow mice, voles, gophers. Rough-legged hawks often hunt at dusk. They nest in the Arctic and northern Canada; like goshawks, most rough-leggeds come to Pennsylvania in the winter, when deep snow covers rodents on the northern feeding grounds and other prey birds have migrated south. They dwell mainly in open country, fields and marshes.

Harrier (Marsh Hawk)

Length, 18-24 inches; wingspread, 40-54; weight, 12-16 ounces. Marsh hawks have a white rump patch and a ruff of feathers around the face, much like the facial disks of owls. Males are pale bluish-gray above, white below; tail is gray with dark bands. Females are brown above, light brown with dark

streaks below; tail is barred with black and buff. Immatures resemble females. Marsh hawks inhabit fresh or saltwater marshes, wet meadows, bogs and flat open farmland. They prey on mice, insects, small birds and rabbits. The species tend to congregate in winter. Voice is a weak nasal *pee, pee, pee*. Marsh hawks nest on or near the ground, sometimes in fields and occasionally on a branch over the water. Nests are made of sticks, straw, grasses and are lined with feathers. Eggs: 4-6, usually five, oval, dull white to pale blue. Incubation is mostly by the female and takes about 24 days.

Peregrine (Duck Hawk)

Length, 15-20 inches; wingspread, 38-46; weight, 1½-2½ pounds. Peregrines are slate blue barred darkly above, with a black cap and "mustache" mark below the eye. Young birds are browner and heavily streaked below. Peregrines have long pointed wings and fly with quick rowing wingbeats similar to those of a pigeon. In attacking prey—ducks, pigeons, blue jays, flickers and other birds—a peregrine folds its wings close to its body and dives at speeds over 175 m.p.h.; it strikes prey with its large knobbed feet, usually breaking the victim's back and killing it outright. When the prey falls to the ground, the falcon picks it up and carries it to a convenient perch to be eaten. The peregrine is uncommon and possibly near extinction and is on the

federal government's endangered species list. One factor has nearly eliminated the bird in the eastern U.S.—persistent agricultural chemicals, which affect its reproduction. Loss of habitat—cliffs overlooking rivers, lakes and seacoasts—may also be harmful. At present, Cornell University ornithologists are raising peregrines from captive parents and releasing the young birds in suitable habitat. They hope to restore the peregrine to a breeding status in the East. Peregrines winter from the northern U.S. south to the Gulf of Mexico. They breed north to the Arctic, nesting in slight hollows on the ledges of high cliffs. Eggs: 2-4, creamy white covered with rich brown markings; 33-35 day incubation period. Voice is a repeated *we-chew* or a rapid rasping *cack cack cack*.

Merlin (Pigeon Hawk)

Length, 10-13½ inches; wingspread, 24-26; weight, 6-8 ounces (size of a blue jay). Merlins look like miniature peregrines, with males blue-gray above and banded black on the tail. Females and young birds are dusky brown above, white below. The name "pigeon hawk" comes from this falcon's resemblance to a pigeon in both flight and posture. Voice is a rasping chatter. Merlins prey mainly on birds but also take small mammals and insects. They favor open woods or heavy timber in wild areas, preferably with cliffs for breeding. They nest about 35-60 feet up on

ledges, in natural cavities or in old nests of other birds. Eggs: 4-5 whitish, almost covered by fine brown marks. Incubation takes 30 days and is by the female.

Kestrel (Sparrow Hawk)

Length, 9-12 inches; wingspread, 20-24; weight, 3-4 ounces (robin size). Kestrels have rusty red head caps, backs and tails, and a black and white face pattern. Males have blue-gray wings, females brown wings. The kestrel is one of our smallest raptors and our most common falcon. Its flight is erratic and buoyant, and it often perches on telephone poles or hovers in one spot on rapidly beating wings. Voice is a shrill *killy killy killy*. In summer, kestrels take insects and occasionally birds; in winter, they prey mainly on mice. They inhabit open woods, orchards and fields, and breed throughout the eastern U.S. Kestrels nest in tree cavities, abandoned woodpecker holes and old buildings, and accept nest boxes readily. Eggs: 3-5, whitish, dotted with brown; the female incubates them 29-30 days.

"The Raptors" is one of a series of Wildlife Notes to be published in GAME NEWS. In January, the varying hare was featured; notes on other wildlife species will appear as space allows.

The Fisher's a Fast Fellow

The fisher is the fastest tree-traveling mammal. It can overtake a red squirrel or a marten and can even outrun a snowshoe hare on the ground.

That's Why It Has Wings

The dragonfly never walks; it uses its legs only for catching prey and as landing and perching gear.

Short Longevity

The flying squirrel seldom lives to be five or six, beginning to reach old age at three years.



A Spring Contrast . . .

NYC to Millport

By Charles R. Gibson

THE WEEK of May 12 was one I'd planned for quite some time. The first five days were to be spent in New York City attending the International Reading Association Convention, along with 17,500 others from the United States and other countries. As a reading supervisor in a public school district in southeastern Pennsylvania, attending this convention was like a visit to Mecca.

However, during the week I kept thinking about Friday. Friday was the day I'd be leaving this manmade environment of skyscrapers, taxicabs and flashing lights, for the serenity of spring peepers, fresh air and Potter County quiet nights.

It was raining as I tipped the parking lot attendant and drove west on 49th St., heading for the Lincoln Tunnel. Watching the overhead signs and the

streaming traffic put my nerves on edge as I attempted to locate Interstate 80-West. Once on I-80, I turned off WABC with its rock music, weather forecasts, and traffic reports, reached for my diaphragm call and began "talking turkey."

I had re-read Hanenkrat's *The Education of a Turkey Hunter* during the week, and had listened to Roger Latham's record of turkey calls before leaving for New York, but my confidence as a turkey hunter was still lacking. And the fan of tail feathers on my rec-room wall from the 12-pound hen I'd taken in the fall didn't help, as I felt more luck than skill had been involved in that particular hunt. This spring, a cagey old tom would be my objective—and luck would not play a major role.

I arrived at the empty camp of my friend Merrill Adams, unpacked the car,

and got out the fishing gear for an evening on the Oswayo Creek. There didn't seem to be much of a hatch that evening, and the two small brown trout that hit wet flies were released without regret, as I felt some beef stew would be sufficient for dinner.

I left the creek around 7 o'clock and went back to camp, but instead of fixing the stew right away, I got a brown bag and decided to walk up the hill to pick some leeks and morel mushrooms. Along the way, I decided to sit for awhile to see if any old gobblers would roost that evening on Turkey Point.

Sun Almost Down

The sun was almost down when I heard the first "gobble-obble-obble." Sure enough, an old tom was going to roost on top, and from the frequency of his calls he apparently wanted everything in the vicinity to know he was in charge.

I slowly closed the distance between us, trying to pinpoint his location and to assure myself he was staying put for the night. The wood thrushes and warblers were closing out the evening with glorious song, and as dusk moved in a great horned owl joined the chorus. At that moment, New York City was a million miles away; the traffic and street sounds were gone, forgotten.

The sleeping bag felt especially good that night when I crawled in around 9:30. Strange, too, how much better a secondhand mattress felt compared to that freshly made bed I'd struggled with all week.

The alarm clock brought me full awake at 4 o'clock. I quickly donned my hunting gear and slipped into comfortable old boots. Again, I couldn't help thinking of how good the old brogans felt compared to those pinched stylish things I'd worn on the five previous days. And the feel of my Ithaca pump—how pleasingly different than books, papers and pamphlets lugged from meeting to meeting.

A quick breakfast, a last minute check of equipment—shells, gloves and mask, diaphragm caller, a candy bar—and all seemed in readiness as I left the house at 4:45.

I had hoped to make the top before dawn, but the first hint of day was showing in the east as I reached the spot where I'd stopped the evening before. At the first suggestion of dawn the woods came to life with the morning serenade of bird songs.

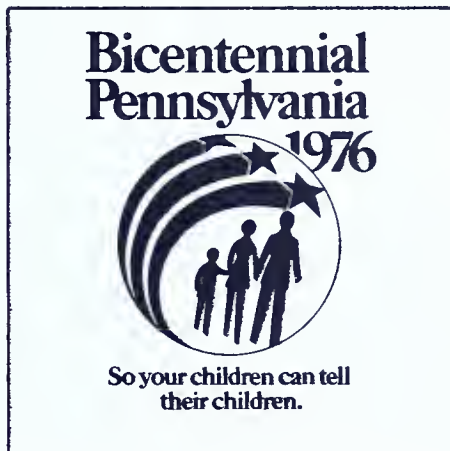
When I was still a hundred yards or so from where I planned to stop, the gobbler added his vocal dynamics to the mountainside! Was he off the roost and moving already? Quickly I covered the last stretch to the top, found a depression behind and under a partly uprooted tree, readied my caller, donned head net and gloves, and sat to catch my breath.

The gobbler was still calling—apparently from the same location, a few hundred yards away. My watch said 5:30 when I gave the first series of yelps. I had felt comfortable with their production, but the gobbler stopped calling immediately. Had my first attempt at calling a wild turkey scared him to death? Was he now heading in high gear for new territory?

The shotgun was resting on top of a root, pointing toward where the turkey had been gobbling, and my sitting apparatus was becoming quite wet as I realized I'd located myself over a small spring of sorts.

At 5:45, I tried another series of yelps that also went unanswered. My confidence was all but gone, but I continued to think of the stories of how some gobblers used a silent approach. I was determined to stay put until 6 o'clock, no matter what.

And that's when I first saw him. He





HE TOOK to the air and swung in front of me. As he headed down the hollow, I covered his head with my front sight and pulled the trigger. He dropped 30 yards in front of me.

was coming in my general direction at a walk, but if he remained on course, he'd pass by out of effective shotgun range. By now I realized just how hard my heart was pounding, and a decision had to be made to turn his attention toward me. A false note now would turn him over the hill for good, but I had to try.

I moved the caller into position, took a deep breath, and let go with a few clucks. The gobbler stopped dead in his tracks. He stretched his neck, his tail feathers fanned out, his wings dropped,

and his feathers extended in the most spectacular display I've ever seen. The lights of Broadway couldn't compare with what I was witnessing on that Pennsylvania hill.

I nearly swallowed the caller when he turned toward me some 50 yards away. He was partly hidden from view and strutting proudly as though saying, "I've come this far, hen, and now it's your turn to make a move."

Suddenly he folded in his wings and tail and started running to my right. He didn't appear overly alarmed, but the show was over and in just a few seconds he'd be over the bench above me. I shot.

He dropped as the magnum load of number 6s connected, but immediately got up and started running in the opposite direction. The second shot apparently missed completely but seemed to confuse the bird, as he took to the air and swung in front of me and headed down the hollow. I swung through his head with my front sight, pulled the trigger, and watched as he dropped about 30 yards in front of me. He lay motionless as I quickly loaded the gun and ran over to him.

As I examined this magnificent bird, I couldn't help but think of the millions of city dwellers who'll never have the opportunity to experience the show I'd witnessed a few moments earlier. And as I shouldered the 17-pound bird with its 8½-inch beard, I heard a "gobble-obble-obble" from the mountain across the hollow. Another old tom was greeting the dawn in Potter County, miles from the hustle and bustle of New York City.

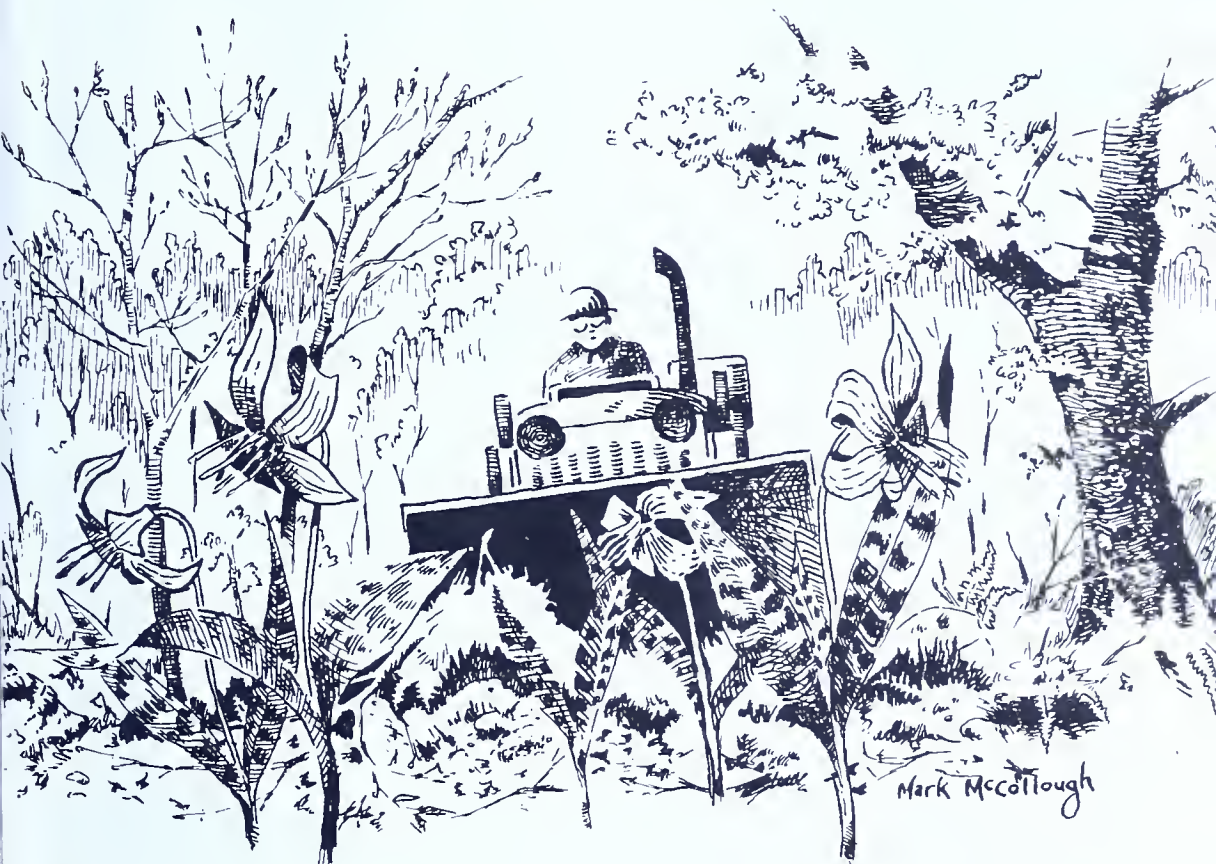
Game Farms Welcome Visitors June 6

All Game Commission Farms will hold open house programs on Sunday, June 6, from 1 to 5 p.m. Game Commission personnel will conduct tours and explain how various game birds are hatched and reared. The six locations are: Eastern Game Farm, between Limerick and Schwenksville; Western Game Farm, three miles southeast of Cambridge Springs on Route 408; Loyalsock Game Farm, five miles north of Montoursville on Route 87; Wild Turkey Farm, 17 miles north of Montoursville between Barbours and Proctor; Wild Waterfowl Farm, two miles northwest of Geneva; Southwest Game Farm, three miles south of New Bethlehem near Distant, on Routes 28 and 66. Everyone is welcome.

Some Wild Plants and Flowers are

Rarer than You Think!

By Larry J. Schweiger



THIS VERY moment may be the last for an entire plant species and, unfortunately, there will be few if any mourners. For, unlike the cute, brown-eyed, spotted fawn tucked head over feet waiting for mom, wild plants go unnoticed by the average woodland sojourner. That is, unless they support a tasty berry or cause people to itch. This lack of recognition has allowed many plant species to sink closer and closer to the extinction abyss. Recent worldwide estimates indicate as high as 20,000 such cases may be nearing oblivion.

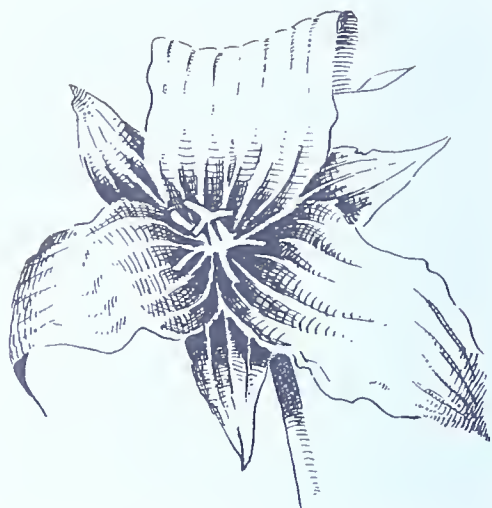
This high number suggests manmade forces are altering the environment at a rate and degree exceeding the tolerance limits of more fragile plants. Some plants are highly malleable and

ductile in their environmental needs, while others are inelastic and brittle. The ubiquitous dandelion needs only to find a crack in a sidewalk to thrive, whereas the frail trailing arbutus will perish with even the slightest pH change. Once found in much greater numbers, the more sensitive plants are now in real trouble. The rapid disappearance of the "poor cousins" of our so-called valuable plants can be blamed on many forces, including monocultural forestry and agricultural practices, cattle grazing in woodlot and prairie remnants, browsing deer, urban sprawl, highway expansion, flood control projects, and indiscriminate removal and picking.

Since plants first appeared on earth,



TRAILING ARBUTUS is a frail plant that may perish from a slight change in pH—the relative acidity or alkalinity of the soil in which it grows.



WILDFLOWERS such as this trillium need protection from bulldozers and undiscerning intruders who may unwisely pick or try to transplant showy blooms.

they have become extinct on a rather small predictable scale. At the same time, new members emerged to fill ecological voids. This natural background of extinction and emergence has been a result of a slowly changing earth environment. These events in dynamic balance play an important role in the ongoing evolutionary process. This is reflected and subsequently can be read through the number of new arrivals and departures taking place. The sheer number of threatened species is a strong indication that the age-old balance may be radically disrupted.

It's not too late! Still scattered among the many biological deserts can be found a few so-called idle spots supporting varied populations of rare wild plants. Efforts must now be made to preserve these few remaining remnants from bulldozers, blades or undiscern-

Idle Spots

ing intruders. Plants exhibiting inflexibility in their contact with man should be preserved by setting aside and managing areas throughout their range so sample populations can be maintained.

You can help. Learn as much as you can about native wild plants. Visit the local library and study some good books on the subject. Obtain a good field

guide. Talk with those who are knowledgeable in identifying and locating wild plants. Take hikes through areas where wild flowers are plentiful. Look, "key out," identify, photograph—but *do not touch!* It is a sad fact that some of the most beautiful are now also some of the most rare. Picking and careless attempts at transplanting are prime causes.

Join and support organizations conducting wild plant conservation programs and encourage organizations you are currently affiliated with to support measures for wild plant protection. Many areas on sportsmen's club grounds could easily serve as a wild plant sanctuary while also providing hunting and fishing opportunities. Discovering a snow trillium in full bloom while spring gobbler hunting or trout fishing can only enhance the day's experience.

If you enjoy flower gardening, you can do several things to help prevent increasing native plant rarity. Use great care when cultivating your home garden to prevent the escape of alien species. Plant only species that are easy to control. Nearly 2,000 vigorous, unchecked immigrants, such as the now too common ox-eye daisy, were originally unleashed from a garden into the wilds, where they crowd out natives.

You should follow several guidelines when attempting to cultivate native wild plants in your local fields and woodlots. First, learn as much as you can about a given plant's needs. Most rare plants are rare because they have exact ecological needs. Talk with successful propagators and learn from their experiences.

Second, start experimenting with the most tolerant species. As your skills develop, you can attempt the more fragile. Test soil conditions, light intensity, and other pertinent factors at an existing site and attempt to duplicate the original when you create a new site. Careless transplanting can lead only to disappointment. Showy ladyslippers, for instance, simply cannot be transplanted from a distant fen to your front yard.

Third, your source for plant material is very important. Collect and start plants from wild seeds if possible. Purchase wild flower seeds, bulbs and plants from a legitimate dealer (one who cultivates his own material). Many ruthless dealers are robbing the wilds for their plants and bulbs. Avoid these operators.

Landowner's Approval

Fourth, use good judgement when transplanting native plants. Attempt to find rare plants on lands condemned for development. Get the landowner's approval and transplant them before they are destroyed. Always obey trespass laws and other applicable regulations and always get the property owner's *written* permission prior to transplanting. Take only from colonies of ten or more, and then no more than one-third. Except, of course, on lands about to be razed for development.

Finally, take notes, record your results and share with others so they can learn from your experience. Passing along cultivation techniques can increase the potential for saving endangered plants.

A wild flower garden can be an effective stopgap measure for saving endangered plants until a more permanent habitat can be established. Artificial cultivation should be



SHOWY LADYSLIPPER is one of the beautiful wild plants which warrants protection today. Once lost, wildflowers can't be recreated

considered a last resort measure until qualified botanists can study, determine and delineate a procedure for re-establishing the species in its original or similar habitat to increase its numbers.

Many persons fail to recognize the need for rare wild plant protection because they consider these members as "extraneous species" owing to their limited scope as isolated individuals. Though this may be true, it certainly is not right to let them disappear. One could probably justify the protection of these rare delights on an economic or social basis, claiming that tucked away in these plants' genepools may be tomorrow's cure for some dread disease, or that they have the potential food value to feed the world's starving people, or that they may be just a delight to surprise some unsuspecting hikers. But the real justification for their protection is simply the fact that they exist today. A biotic guarantee must be provided to insure their survival. Once lost, they can never be recreated.

Efforts must be made now to reverse this trend toward extinction. Recovery for endangered plants is going to be a long and difficult struggle, for three primary reasons.

First, conservation measures usually follow strong public awareness, concern and support. To date, vegetative material just has not been able to generate the appeal needed for this support. Endangered plants sufficiently striking to be classified "wild flowers" appear to have a little better chance, but the bland plants are in real trouble. Let's face it, the preservation of endangered species has been spurred by public pressure, and it's hard for most of us to get choked up over some nebulous nondescript green plant.

Second, plant life has been deemed traditionally to be the real property of landowners in America, while wildlife has been considered a public natural resource and as such the common property of all. Therefore, wildlife laws can be enforced on all lands, where laws protecting endangered plants to date have extended only to public lands. Private landowners have been free to do what they please to plants found on their property.

Third, unlike wildlife, which is mobile, plants just cannot pick up their roots and run in the face of danger. Moving and re-establishing rare plants will require transplanting efforts to spread remnant populations. Trans-

planting, even with great care, often fails. Even minor root damage in some species can lead to fungal, bacterial or viral infections and ultimately death. Many plants have very specialized but unknown requirements which, until more research is completed, eliminate the transplant possibilities. Even when such transplanting succeeds, the plant's future is still questionable in terms of reproduction capability and permanence of habitat.

A recent Smithsonian Institution study, authorized by the Endangered Species Act of 1973, revealed that about 10 percent of the flora species in the United States (approximately 2,000) are rare or endangered. Seventeen of these species can still be found in Pennsylvania.

These threatened plant species constitute a minor fraction of the total biomass. But this does not mean they lack value. They have intrinsic values which simply cannot be measured in terms of an animal's palate, or of any of man's emotions, for that matter. As a ship's captain must navigate around obstructions seen and unseen, so too we must manage our resources with regard for the unseen. Only through understanding and concern can we reverse this trend toward extinction. It would be a pleasant surprise to see these "environmental barometers" attract enough attention and concern to warrant proper maintenance.

Available Publications

The following publications are available from the Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. Prices quoted include taxes, handling and postage.

GONE FOR THE DAY, by Ned Smith. All of the outstanding columns and artwork which appeared under this title in *GAME NEWS* during a four-year period. Delightful reading for everyone. 216 pp., \$2.50.

THE WHITE-TAILED DEER IN PENNSYLVANIA, by Stanley E. Forbes. Detailed information on all phases of the whitetail's life. 40 pp., 50 cents.

Which Pointer for You?

By Nick Sisley

THE PROSPECTIVE bird dog buyer has a long list of pointing breeds from which to choose. I am familiar with 10 different pointing breeds, and any one of them could be well suited to an individual sportsman. But numerous hunters fail to give careful consideration to the breed they purchase, and in many cases they choose the wrong one, a breed that does not possess the characteristics or disposition they expected. Here are some comprehensive details that are characteristic of the following pointing breeds: pointers (often erroneously called English pointers), English setters, Irish setters, Gordon setters, German shorthairs, Brittany spaniels, wire-haired pointing griffons, drahthaars or German wire-haired pointers, vizslas, and weimaraners.

Pointers

The origin of pointing dogs has been lost in the annals of history. Many indications point toward Spain as the starting point, but other information gives the impression that France, Belgium, or other European countries could also have been involved. One thing is certain—wherever it originated, the pointer was “developed” in England. Fortunately, pointer breeders in Great Britain kept meticulous records, and it is easy to document the class dogs of the breed during the developmental period. Brockton's Bounce, Richard Garth's Drake, Thomas Statter's Major, Samuel Price's Champion Bang, and F. H. Whitehouse's Hamlet formed the cornerstones of early breeding programs. Isaac Sharpe (1867–1938) was probably the most prominent pointer trainer of his day.

Today the pointer is widely known for its hard hunting and wide running capabilities. However, when the breed was in its early stages of development in this country, owners who showed up



GERMAN SHORTHAIR and trainer. Dogs of this breed run at moderate range, with moderate speed, and are extremely versatile hunters—often a great advantage.

at field trials were half apologetic about their breed. At that time English setters, Irish setters, and even Gordon setters were more popular and more consistent trial winners.

For some reason, setter men breeding for field trials and the gun have failed to match the pace pointer breeders have maintained through recent decades. The latter have vastly improved their dogs over the last 40 or 50 years. Today the majority of dogs entered in field trials are pointers. As a



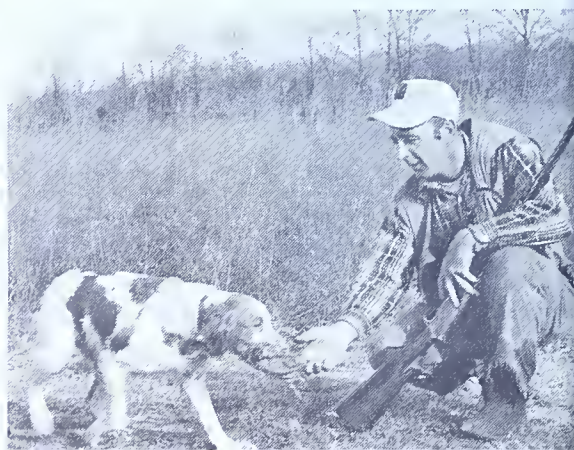
GORDON SETTERS, left, being shown by handlers. Right, English setter on point.



DRAHTHAAR, LEFT, IS OFTEN confused with wire-haired griffon, right, but they are different breeds.



POINTER, ABOVE LEFT, and Irish setter, right; below, two Weimeraners on point and a Brit-tany spaniel returning bird to gunner.



rule, pointers are more precocious than setters. On the average they'll hunt, point, hold birds, and take to formalized training quicker than most other breeds.

The pointer takes to forced training quite well. However, it's easy to go too far and cow these dogs, or to overtrain until their natural hunting abilities are replaced by a more mechanical style. An important consideration for the prospective dog buyer is the fact that pointers are not normally as receptive to kindness and affection as setters and other breeds. They tend to remain more aloof.

I admit pointers rank number one with me, so my bias probably shows. The trait I prefer above all others in a dog is the strong, unrelenting desire to hunt. I've seen this desire more consistently in pointers than in any other breed. I also like their short hair, because there is never a problem with burrs; it does mean that in more northern climates a warm, dry, draft-free kennel is absolutely necessary.

The pointer is a rugged dog which asks very little and consistently gives 100 percent. It remembers what it has been taught, has a great deal of pointing instinct and, compared to other breeds, can be made steady to wing and shot with limited training. Few pointers retrieve instinctively, but occasionally one can be taught this skill.

If the trainer has the time and inclination to get into the field often, both in gunning and in training season, it would be hard to choose a more productive and efficient hunting companion than the pointer. This breed shows off its greatest assets in quail country, but excellent pointer strains have been developed that specialize in grouse, woodcock, or other game birds.

English Setter

Top English setters were imported from England many years prior to the arrival of pointers. Perhaps because they got this earlier start or perhaps because they were simply better and more aggressive bird dogs, the longhairs had things their own way in field trials and prime bird country in

the days of yesteryear. Today, fewer setters are competing and winning in major pointer/setter stakes, but there is no question that the English setter still offers splendid qualities to the hunter, especially the grouse and woodcock gunner.

I believe an English setter's pointing instinct is just as well instilled as that of the pointer. Its drive and hunting desire are nearly as strong. To my eye, the breed generally "looks" good working through woodlots and field edges. There is no question that a dazzling setter on point is a beautiful sight.

Setters take to training a little differently than pointers. You must permit their natural instincts to come to the forefront and guide rather than over-train them. Today's setter can take mild punishment, but if you overdo it, you may ruin the dog.

One of the setter's endearing qualities is its love for affection and tendency to be a one-man dog. Because of this, it makes a great house pet. However, a setter's long coat can keep it warm in winter, so the breed can do well in an outside kennel. But a setter always seems to do best when its owner spends a lot of time with it, both in the field and around the home.

Irish Setters

The great beauty of this breed has actually hurt its performance in the field in recent years. The regal red color and stately appearance of Irish setters have caused them to become the darlings of the bench show world. And this has almost ruined Irish setters for the field.

Fortunately, we have a small number of Irish setter fanciers who are trying to bring the breed back as qualified field dogs. Today, these breeders are producing hunting dogs that show definite improvement.

Few dog fanciers realize that the Irish setter was at the forefront when field trials began. Back in the 1870s and before, all the other breeders were trying to improve their strains to equal the Irish setter. Back then, red dogs were good general purpose dogs that took to most any type of hunting—pheasants,

moor shooting for grouse, snipe, European woodcock, and all types of waterfowling.

The Irish setter is not a breed that can be forced or hurried. It takes time for them to develop. Harsh discipline or abuse is seldom in order. An Irish setter has an overriding desire to please, and as soon as it figures out what it desires, it will start cooperating.

They don't have the desire, dash and fire at the breakaways, but Irish setters are industrious in their work. Their demeanor might be called businesslike. Their range isn't as wide as those of English setters or pointers, nor do they have as much pointing instinct. They tend to form firm relationships with their masters and can be very affectionate. All in all, the field-bred Irish setter is well suited to many wingshooters.



THE VIZSLA is the favorite pointing dog for the vast wheat fields of Hungary. Vizslas often retrieve well—something not all pointers do—and are affectionate dogs.

Gordon Setters

Today, fewer people are trying to breed Gordon setters for the field than are trying to bring the Irish back. The Gordon is a slow paced dog, its range restricted. While a Gordon's black-and-tan color is attractive in the bench show ring, it's tough to see in the thicket. Gordons generally have excellent noses and respond readily to commands in the hunting field. As a rule, they make good retrievers with little training.

Unfortunately, too many Gordon owners and breeders are interested only in having a Gordon because it's unusual, different, or just decorative. Perhaps the dog's great beauty, like the Irish setter's, has taken away from his field potential. Hopefully, more breeders will try to develop good Gordons for the field in the future. If they do, and are able to save the breed from bench shows and the trend toward ornamentality, North American gunning fields will be better for it, in my opinion.

German Shorthairs

Not too many years ago the German shorthair was a newcomer to the North American wingshooting scene. Today it is recognized throughout the nation. The typical shorthair runs at moderate range, with moderate speed. However, there are certain shorthair strains whose speed, range and hunting desire have been greatly increased. As a rule, today's shorthairs are smaller, more compact and trimmer than those of the late '40s and early '50s. As the name indicates, the breed originated in Germany.

One of the shorthair's great attributes is versatility. It can switch from one upland bird to another with amazing ease. The upland enthusiast who does a little duck shooting, especially in the early season before cold water temperatures become a problem, will find the German shorthair an excellent choice.

In Germany, these dogs were developed to point feathered game, run scent trails of furred game and to bring to bay or kill big game—stags, boar, etc.

German shorthairs I've worked with didn't have quite as much pointing instinct as English setters or pointers, but the difference was small. For the man who wants a versatile gun dog, a German shorthair is tough to beat. Good retrieving instincts and soft mouths are hallmarks, and shorthairs retrieve from water as willingly as they do from land. Many individuals are remarkably patient when it comes to "hunting dead" in thick cover.

Brittany Spaniels

The Brittany has jumped into the North American gunning limelight in a short span of time. It is our only pointing spaniel (other spaniels flush their game). Brittannies seem especially adept in grouse and woodcock cover, or where pheasants are found in close quarters. They tend to have medium range and medium speed.

One of the reasons Brittannies have become so popular is that they are smaller than any other pointing breed. This makes them easy to kennel, and they eat less feed. They make ideal companions for home or apartment.

My personal experience with the breed has been disappointing. I've had trouble getting them to point solidly. This, however, may be a fault in my own training methods, for I know well-trained Brittannies which are quite reliable. With regard to retrieving, they are on a par with German shorthairs—right at the top of the pointing breed list. Many are soft mouthed and will take to water. While Brittannies are not overly affectionate, they do make fine companions and excellent family pets.

Wire-haired Pointing Griffons

This breed was developed in Holland to hunt any type of game. Here in North America we tend to prefer more specialized hunting dogs. Perhaps this has prevented the griffon from becoming more popular.

Though its coat looks wiry, the hair is soft to the touch—something like finely combed wool. A griffon is a fairly slow, close working dog, intelligent and a good retriever. It is probably most at home in a woodcock thicket where a thorough, close-working dog can be effective.

Drahthaar

Some tyros have confused drahthaars with griffons, but they are separate breeds. The drahthaar was developed in Germany, and the dog's coat has a wiry feel, not unlike that of an airedale.

When originally introduced they were referred to as German wire-haired pointers, but in later years their name was changed to drahthaar. These

dogs are medium to close workers, fairly slow, easily taught and good retrievers. They are best suited to woodcock thickets, snipe marshes and other areas where an armor-like coat offers protection.

I've never owned a German wire hair, but everything I've heard and read about them indicates that they would be a good choice for many American shotgunners. They are bold to a point, seem eager to please, can take a fair amount of discipline, are good kennel dogs, and are affectionate and good with children.

Vizsla

No pointing dog has ever been developed solely in North America, but in Europe practically every country has had its own "national" breed. So it goes with the vizsla, the pointing dog of Hungary and its vast wheat fields. In that country he is the Hungarian partridge specialist.

The vizsla's rusty gold coat is attractive. It is a medium to close range dog and is fairly teachable. I personally would like to see breeders develop vizslas with more pointing instinct. Generally they retrieve well with little encouragement.

Although a bit aloof, vizslas are affectionate. Their hair is quite short and very thin, which means they are not particularly suitable for kenneling outside during northern winters.

Weimaraner

The weimaraner's a large pointing dog, clad in "buckskin" and stub-tailed. It has not attracted a great deal of attention from ardent hunters, but the breed seems particularly well suited to obedience training because it is so tractable. Quite popular as a family dog in rural and suburban areas, a weimaraner makes a good watchdog.

As with vizslas, I would like to see breeders concentrate on instilling more pointing instinct into this breed. If they could do this and produce a dog with a little more hunting drive and desire, the weimaraner would certainly be a fine hunting breed. Weimaraners take to training easily, retrieve well, and tend to remember their lessons.

Goin' To Gobbler School

By Bob Leshner

IT'S AMAZING how much gobblers can teach you. Just about the time a person thinks he knows all there is to know about turkey hunting, an old gobbler will turn right around and prove he knows almost nothing!

I had good teachers this past spring; they were strict, to the point, and didn't care a darn how many feelings they hurt. Some stood in front of the class gobbling for an hour and wouldn't listen a minute to my calls for attention. Then there were others that, the first time I raised my call, just left the room. And there were those who moved inconspicuously about the forest room only to sneak up behind my seat and take a look at my actions before vanishing.

The school bells began to ring way back on March 29 as I was out walking through some heavy forest. I heard the teacher out there, somewhere, beginning the lesson for the year. He didn't talk long—I guess he was just making assignments for the days to come.

I didn't try to call the turkeys early in the spring. It was enough pleasure just listening and pinpointing the gobblers and hearing them warm up for bigger things to come. It seemed that as each day progressed more and more turkeys were heard.

First Lesson

The first lesson was taught on Easter Sunday. At daybreak our family went to sunrise church services on a hill overlooking our city of Williamsport. I guess my mind wandered a little as the sun broke over the hills. By the time we reached home, I knew I had to head for the forest while the rest of the family got ready for a later church service.

It had long been a desire of mine to shoot a turkey in the wilds with a camera. So with camera telephoto lens,

and the works, I started out through the hickories and maples. Walking slowly and looking ahead intently, my imagination played tricks on me and I thought that every old stump and bush was a turkey. By this time the sun was high, and its light flowed into every opening on the floor of the woods.

It's a pretty well known fact (?) that you can't walk up on a wild gobbler. I kept thinking this as I went. My thoughts were suddenly jarred into reality when, at about 50 yards, the bobbing red head of a gobbler crossed in front of me. He was in telephoto range. I focused the lens and snapped as he disappeared behind a fallen red oak. I advanced to get a closer view. He still didn't see me. "He" didn't, but his harem of hens sure did! The woods exploded into action when about five hens and another gobbler ran and flew for another county.

That was lesson one, and I flunked it—have patience and sit still when you see turkeys in the woods. Maybe they haven't seen you.

The shooting season finally arrived and my course of instruction was due to go on. The first few times out were kind of uneventful and rainy, but my enthusiasm remained undampened.

On May 10 I was out early. It was gray and overcast following a rain the previous evening. While walking a road at the foot of one of our Bald Eagle Mountains, I heard a gobbler which had been sounding off since before dawn. He was in a cluster of tall red pines on a knob to the right of the road. He let go with one last gobble as I sneaked closer, and I heard the sound of wingbeats. Hurrying to the knob and hiding in a fairly good spot, I began to call.

There was no answer, but off to my left, out of view, I heard a rustling sound. I thought it was a squirrel; no

further answers came to my calls. Thinking I should move on, I collected my gear and stood up. Out of a tree, about 45 to 50 yards distant, a gobbler broke the silence as he flopped his big wings and was quickly gone.

Lesson two: turkeys sometimes fly into trees as they return to a call rather than stay on the ground. Flunked that one also.

By this time it was 8:30. Where I hunt, most of the action usually seems to be finished by this time. However, I had the whole morning off from work and thought I should explore further.

Traveling to another sloping mountain not too far from where I had been, I decided to just sit and listen. No gobbles. I tried the hinged box caller, first quietly and then as loud as I could make it talk. From some place far to the north along the mountainside came a faint gobble. It was so soft I began to think I might have imagined it, but then it came again. The job now was to get to him as quickly as possible. Running and stumbling along the side of the mountain, I eventually came to a pleasant little pine woods covered with trailing pine, which made walking quiet. The turkey was gobbling just on the other side of a ravine in the hardwoods. I settled behind an old stone fence with a big rotted stump on top, a perfect hiding place.

I called and called and he answered and answered but would not budge. Deciding to get closer, I crossed the small hollow in front of me and went to an almost treeless knoll. While searching desperately for a place to hide, "cluck . . . cluck . . . cluck" came from the bottom of the knoll, in deeper woods and just out of sight. The turkey couldn't have been more than 40 to 50 yards away.

I just stood statue-still, waiting to see what the bird would do. The next time I heard him gobble, it was from deeper in the hollow. I dived behind the first small tree I came to and gave a couple yelps on the box call. Back he came with a double barrel response. It was only seconds before I heard him coming. The only problem was, he went up the far side of the little hollow, just out of gun range. The spot was very near



THIS IS how I looked to the turkey! (Note twin barrels of shotgun just a bit below dead center of the picture.) Fortunately, I passed the final lesson.

where I had originally sat. I stopped him on the run with two yelps and a cluck. His eyes searched intently for his lost love. Up came his tail fan, his head drew back into his chest and down went the primary wing feathers. He strutted and gobbled but would neither leave the area nor come any closer. He was doing his level best to lure this hen to him.

For close to a half-hour the show went on, and I found myself wishing for my camera with its telephoto lens. Finally the gobbler tired of this game and went off through the woods, gobbling all the way.

Lesson three—stay in your original hiding spot as long as you have a turkey talking to you.

The final day of school came on the last Wednesday of the season. I guess it could be called graduation day—the

day the diploma was presented.

Just as the first streaks of light were showing, Stan Weaver, and his boy Craig and I were walking down an old wagon road that paralleled the top of a mountain, perhaps 100 yards down the side. We hadn't gone far when, in a ravine just below, a gobbler cut loose. It was a question of how the three of us should scatter in order to have a fair chance to work the gobbler. We dropped Craig off on the path right where we first heard the gobble. I went to the head of the ravine just above the gobbler and Stan went on down the path about 75 yards beyond me. All was ready.

Several Quiet Clucks

I waited a few minutes enjoying the new dawn and making sure all my callers were ready and my head net on. Then I made several quiet clucks on the slate caller. No sound came back from the master of the mountain. Then a few more clucks, and this time an immediate double gobble answer. Now he seemed interested.

Waiting till after the next gobble, which came in about 15 seconds, I gave him two quiet yelps on the hinged box followed by several clucks. Another double gobble came back, this time deeper and with a more hollow ring. I knew then he was out of his roosting site and on the ground. This is a crucial time in spring gobbler season, when the turkey comes off the roost. They often hang up at this point or else move away from your calls.

But he gobbled several times after alighting on the ground, and soon I knew he was coming. His gobbles were getting closer and closer. I watched, waited, and listened while yelping very lightly on my slate caller. I expected to see him any second.

While this was all going on I heard a rustling noise on the trail to my left. I couldn't move much to look for fear of scaring the gobbler which should, from the sound of his gobbles, be nearly in view. The rustling noise continued. Slowly turning my head, I was shocked to see a skunk heading directly for me about fifteen feet away. Quickly sizing up the situation, I concluded it was

either the skunk, the gobbler or me that was going to have to leave in a hurry.

As I was lying on my stomach anyhow, I pressed ever tighter to the trail. As flat to the ground as possible, I waved my left arm to convince that skunk that I was a vicious threat to his very being. I must have gotten lucky, for with the motion of my arm he veered off the trail and went on up the mountainside.

My complete attention returned to my gobbler. He came out of a patch of brush with a booming gobble, and there he was at about 50 yards. All I could see at first was the big fan of his tail showing above the huckleberry bushes. He turned very slowly in a circle, all puffed up like a balloon. Then he took a few steps, gobbled, and strutted all over again. What a graduation ceremony!

He passed behind three trees staggered in a line between me and him. I looked for him to come from the left side of the trees, so I shifted my aim to that side and was ready. But he didn't come out that side. In fact, for about a minute he didn't come out either side. And then there he was, moving slowly toward me on the right side of the trees about 25 yards away. I couldn't shift my body to shoulder the gun now, as he was too close. Very slowly, I swung the gun to the right and held it in front of me.

When everything looked right I touched her off and promptly was rewarded with a belt in the jaw. However, the turkey went down. I wanted to anchor him, so I shot again with the other barrel. This time after the shot was over and the stars cleared away, I got my camouflaged head net off and hurried down the mountain. He wasn't even fluttering.

When I lifted him, I knew he would weigh close to 20 pounds, and his beard was nine inches long. A real old tom! The new morning sun was just peeking over a distant mountain and winking off the gold, bronze, green, chestnut and black highlights from his plumage. I admired my hard earned diploma for a moment and then headed home. School was out for this year.

"LUCK...."

AND A CINNAMON BEAR

By Cynthia Loose

"I'VE ALWAYS said bear hunting is 95 percent luck and 5 percent darn good luck," says Don Kepler of Pine Grove Mills, Centre County. The former Penn State baseball coach, teacher and survival expert has bagged eleven bears in Pennsylvania—a record that can be adequately admired only by hunters who have stalked the elusive trail of this intelligent, burly animal.

But Don's claim that luck is his key to success is really only a key to his humility. Either his luck is, as he says, "Better than a license to steal," or he knows more about the black bear and its habits than he is willing to claim credit for.

Don admits that as a boy of 12 he had his problems. "I'll never forget the first time I saw a bear track. I was so excited I came home and bragged for a year—as if I were somebody special, just because I'd seen a bear track."

But in his years of exploring the woods and hunting the animals which inhabit them, Don has gained not only respect but understanding. And the unpredictable bear was one animal he came to understand.

"A bear is like a deer in some ways. Before it lies down it meanders around and then backtracks off in a circle. On a deer track, what you learn is to look off at right angles. A buck gets about 75 yards off the main trail, on a hump with a lot of cover, and then he hides. The longer you hunt, the more you learn what kind of place they will hide.

"A bear will be feeding and then he too will decide to go to bed. He'll take off in a straight line for maybe two miles, and then he'll circle either to the right or left, depending on the way the wind is blowing, and find a place with plenty of cover.

"If a man is tracking him, the bear

will see or smell him before he gets too close. I figure that while on the trail of a bear you should look for the kind of cover he might head for, and then sneak in behind him—catch him sleeping. But here's how smart he is," says Don with great respect. "He'll go through an area of old briars, dead hemlocks or loose stone, so if you go through, there will be enough noise to wake him up."

But if a hunter gets through that obstacle, without making noise, Don says the bear has another method of detection. "A bear usually gets up high with the wind blowing in from his tracks, so if he doesn't see or hear you, your scent blows in and wakes him up—and then away he goes."

As a young farm boy, Don had tested the wind theory on hogs. "I once had an old boar hog, and I started to sneak up on him against the wind to see how close I could get. Going in against the wind, I got close enough to kick him in the rear end. The next day he was sleeping again, and I came at him with the wind blowing in with me. When I was still 150 feet away, he jumped up and gave a snort. If the human scent rings alarm bells in a tame hog, think what it does to a bear.

"Well, when I saw how the bear backtracked and set up two natural screens against the hunter, I realized I was just wasting my time chasing that poor old bear out of bed."

But even knowing that information, a

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to a friend



DON KEPLER and his cinnamon bear trophy, shown beside black bear of normal coloration. According to Kep, bagging either type is 95 percent luck, five percent darned good luck.

hunter still has a more-than-worthy opponent when he trails a bear. Don's hunting partner Jim Lundy, who according to Don has forgotten more about bear hunting than most men ever know, testifies to the inexactness of the science of bear hunting. "How can you tell what the bear's going to do," Jim says, "when the bear himself doesn't decide from one minute to the next?"

But both Don and Jim agree that the bear develops a pattern of crossings over the years. "When you chase a bear off one mountain, there is probably one place he'll travel, time after time, due to the terrain and the cover," Don says.

In 1956, Don bagged one of his finest trophies—a cinnamon bear. This beau-

tiful color phase of the black bear occurs only infrequently in Pennsylvania. A cinnamon bear has a rich honey-blond coat and a reddish-brown nose and claws.

The cinnamon bear is one of Don's favorites mostly because he feels he outsmarted the animal—and here is a clue to kind of hunting Don does, and why he does it at all. It is his trademark—to hunt an animal which is a worthy opponent for man's ingenuity and one which tests the hunter's skill in the woods. It is the same thirst for challenge that urges Don to pass up turkey hens and hold out for hard-to-find hermit gobblers.

Every Track Fresh

A continual flurry of snow made every track a fresh one on the day of that hunt. The hunters at the camp near Bear Hollow, Lycoming County, left at dawn in the biting white wind. At about 8:30 a.m., Don ran into his friend Jim Lundy, who said he had just left a good track. The track went up Wild Cat Point, which was sheer rock, and the track was too tough to follow. He bequeathed it to Don.

"I followed to where he quit. But about 200 yards beyond where he left off, the bear cut down over the point. I guess the rocks got too tough for the bear too. I followed him down across the hollow into a big patch of rhododendron.

"I knew from previous experience he was getting ready to go to his nest. He made a beeline for about two miles and then began to swing around. So I didn't swing around with his tracks, but instead backtracked around another patch of rhododendron. A bear likes a canopy, something to crawl in under, so I figured he'd be somewhere in that patch. I worked my way forward, facing the wind. A couple dead hemlocks lay in front of the patch, so I worked my way through carefully and got up close to the patch. It was so thick I didn't think I'd be able to see him even if he did get up.

"So I'm standing there trying to figure out how to get him. I thought about climbing into a tree to look down

into the rhododendron, but to do that I would have had to unload the gun, climb the tree, pull the gun up on a string and then reload it. Chances were he'd hear me, so I discarded that tactic.

"While I was trying to think of another way, nature decided for me—the wind swirled around and blew from me into the bear. The minute the wind changed, just like that he smelled me. I could hear him and could see the laurel shaking. I ran over, jumped up on a dead tree and held my gun up, following the rustle of the leaves, hoping to get a glimpse.

"I was thinking, let me have one shot at him and I'll settle for that. Well, the next thing I knew, he popped through the clearing. I was waiting to see a black bear come into my sight, and when I saw a golden brown thing I lowered my gun, flabbergasted. That was the last straw—to miss the greatest trophy of all by being too careful and confused.

"He disappeared, but I followed him into some shorter rhododendron. When running, a bear digs in his front feet and stretches his hind legs out in front of his front legs in kind of a rolling motion; so every now and then his head would just come up over the brush. When his head came up, I took a shot and then didn't see him anymore. I hadn't really expected to hit him, but just in case I mentally marked the place I had shot, lining it up with a tall hemlock so I'd have a reference point. I went running through the snow, watching the hemlock as a marker, when I stepped right on his rear end. I'd hit him right in the back of the head."

And there it lay, a big male cinnamon bear, reddish-brown against the snow. Snowflakes angled down through the branches of the bare trees, melting when they fell on the thick fur of the bear.

With a big bear more than eight miles from camp, the real work was about to begin. And the trip to camp was nearly all uphill. But Don remembered the Gray Run Club, which was downhill, and the tug of war was on.

In the thick rough mountain country,

Don stopped to take a compass reading. On the track since early morning, he had shot the bear about 1 p.m. The dragging was to take even longer than the hunt.

"I took off my belt to make a loop over my shoulder, and I had another piece of leather which I tied around his neck. I pulled my coat off, took a compass reading and then walked about 100 yards. I put my coat and gun against a tree, went back to the bear clearing out fallen timber and debris on the way back and hooked the contraption over my shoulder. I got down low and like a mule and dragged him to the coat.

"I'd move the coat and gun ahead, clear the path, drag the bear, move the coat and gun, drag the bear to it. Back and forth, back and forth. By dark I was within 200 yards of the Gray Run Camp, and I figured someone could drive out and pick him up. But when I got there no one was at the camp, and I figured I'd have to leave the bear and walk four miles north to our camp. Fortunately another hunter came in a Jeep. He agreed to haul the bear if he could have a lock of its fur.

"It seems that one night he had heard a racket at the garbage cans and had seen this or another cinnamon bear. He coaxed and threatened the other guys out of bed, but by the time they got up the bear was gone. They had given him a hard time about it ever since, and he wanted something to prove he was sober that evening."

Bear Chops Excellent

The bear was good for something more than proving the truth, of course. Don proclaims bear chops excellent, roasts, steaks and hamburger good. And there's a lot of fat on a bear; bear grease has a purpose, even though the dry look has overtaken the slick greaser look. Don cuts off all the fat from a bear and renders it. People who believe in its medicinal value will pay a pretty price to get it, but Don gives it away.

"Once, a woman told me, 'I'm gonna lose my job—my hands are so crippled with arthritis that I can't make change for customers.' I told her to heat the bear grease and rub it in. A couple

weeks later, she said her hands felt a lot better."

If that sounds too much like a dish-washing liquid advertisement, Don has another success story. "I knew a man over 80 years old who had a bad ankle and walked with a cane. He came and told me he had heard that bear grease might help him. Two weeks later, the man walked without a cane."

Don claims penetration is the secret. If you put bear grease on your boots, he says it will be through your boots and socks and into your skin in a few minutes.

Don has shot three bears since 1956, when he got the cinnamon bear. In each of the eleven years he shot a bear, he also bagged a hermit gobbler and a deer. And he has passed up some bear in his caution to get legal trophies. "If there is any question of a bear being legal, it's best to pass it up," Don says.

Don knows bears inside out. A newborn cub weighs only eight ounces or so when born. "That's nature's way of taking care of them. The mother breeds in June or July and the cubs are born in January or February, when the mother is in a state of semi-hibernation

or restless sleep. She may have one to four cubs, and if they were big they would suck her to pieces, because she is holed up for another month or more. A tiny animal doesn't require much, so she can nurse those little fellows and keep them going without dragging her down. When they come out they grow real fast, and by November they weigh 40 to 60 pounds."

Don hunted for 40 years with Jim Lundy and now often goes with friends or his sons. But he says it is better to hunt alone. "With too many people, there's too much noise. And sometimes when I'm alone I get psyched up. I'll stop, and something will tell me to go someplace. If I was with someone I might feel crazy to tell them I had a feeling to go someplace."

Perhaps that feeling is what poets and philosophers call communion with nature, but to a hunter, it's an instinct that can mean success. That feeling, along with years of experience in the woods and a tremendous knowledge of animal behavior, makes Don Kepler the hunter he is. Ninety-five percent luck and five percent darn good luck? Maybe, maybe not . . .

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Birds in the Woods

by Bill Betts

YOUR TRUE-BLUE, dyed-in-the-wool, honest-to-goodness turkey hunter never fails to astound me with the great store of information he has assembled on our biggest bird. From a casual inspection of the scratchings he can tell you how many birds are in the flock. With a little study over a week's time he can plot the travel route of the flock and tell you precisely where they'll be tomorrow at noon. He knows whether the birds are feeding on beechnuts or grasshoppers, and where they are going to roost. He insists he can establish with one good reading of a gobbler's gobble just what the old boy's status is with respect to his harem.

You would think, to listen to him, that the wild turkey is the only bird in the woods. But he is not the only bird in the woods. He may be the biggest bird in the woods. He may be the craftiest bird in the woods. And you might even argue that with all his tints and hues and shades of color he is the most elegant bird in the woods. But he is not the only bird in the woods. Not by a long shot.

Your true-blue, dyed-in-the-wool, honest-to-goodness turkey hunter never fails to astound me with how appallingly little he knows of the other feathered folk of the forest. Oh sure, he can identify promptly and with staggering confidence a plump robin redbreast. Or a crow. But who are these little fellows all around him? Why has he never become involved with these interesting personalities in the way he has with the big bird?

I'm talking about bird watching on the turkey watch. This May-month, while you are sitting in your favorite little glen, sounding off on your homemade turkey call, hoping to bring in the big bird you had a fleeting glimpse of the night before, why not enjoy a big fringe benefit of the spring gobbler season?



Golden-Crowned Kinglet

You are going to be in the tall timber, or the piney woods, or the slashings, at one-half hour before sunrise on Saturday, May 1, until 11 o'clock that morning, and the same again perhaps several days during the ensuing three weeks. This is the right time. I don't mean the right time for the bearded gentleman that you are looking for—I don't know about that—but it is the right time for all of the other birds of the woods. When the forest wakes up, it wakes up in song. And the glen as far as you can see is all at once bouncing with feathered activity.

Now pay attention. Let's suppose you are deep in the woods of Potter County, on a high ridge overlooking the First Fork of the Sinnemahoning. Or perhaps you prefer the tall timber surrounding the Greenwood clearing at the head of Montgomery Creek near Curwensville in Clearfield County. Or maybe for the first week in May you always head for the lovely Spruce Creek Valley in Centre County. It doesn't matter a whole lot. You are going to see birds. Let's consider what you are most



Baltimore Oriole

likely to see and hear from the time you set out for Old Tom Turkey.

On the way in to the spot from which you mean to do your calling you may have made out in the half-darkness a blur flitting up from the path ahead. This is the spectral whippoorwill. You heard him call his name as you were flopping out of the Jeep. So you know.

Naturally you are going to get the business from the snoopy blue jay. The rascal has promptly announced your intrusion to four square miles of turkey country, and it will be a while before he shuts up. He is unmistakable in his bright blue and his bluff and bluster. Every turkey hunter knows the jaybird. Same as he knows the crow.

And almost every turkey hunter knows that little black-capped ball of spunk and good cheer. He is spruce and smart in his black and gray and white attire. He roves the woods in small bands, but he'll find a mate and pair up for the spring, same as all the other birds. If you have not recognized him yet, listen to him call: *chicka-dee-dee-dee*, or *FEE-bee*. He will perch on the end of your gun barrel, or on the top of your head. But you have to sit mighty still for that, more still than for Old Tom. Try it.

You've had the tufted titmouse (tomtit) at your bird feeders all winter long, so you should know this pert and handsome bird too. Did you know you can call him right up to you (he'll be answering all the time, same as a turkey) just by imitating his whistle: *peter-peter-peter*. He's a whole lot easier to bring in than Mr. Gobbler. Course he's not as big.

That little fellow you see chasing the turkey vulture up there is a kingbird. He'll take out after crows and hawks, too. He loves a scrap, but he doesn't ever find anyone who will stand up to him, except once in a while an oriole. He's a flycatcher, and the only thing against him really is that he eats honeybees (mostly drones, fortunately).

Another flycatcher is the handsome phoebe, who not only gets here early in March but is the first bird up in the morning. You'll find him near some kind of water as a rule, and you can recognize him by his call (*phoe-be*) and by his habit of bobbing his tail.

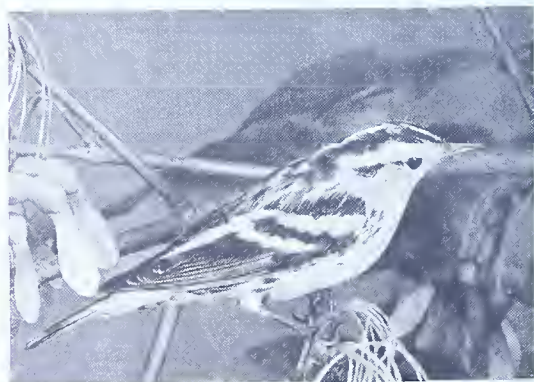
Slightly smaller is another flycatcher you'll see a lot of, the wood peewee. He's rather drab in his sober olive, but he's a vivacious little fellow. He looks a lot like the phoebe, but he does not bob his tail when he is perched, and his call is a rather slurry, very drawling *pee-wee* or *pee-a-wee*.

There are a great many tree-trunk climbing birds out here. The black and white hairy woodpecker and the smallest of all the woodpeckers, his black and white cousin the downy woodpecker, both like the borders of the woods, and both are models of patience and persistent industry.

You should see the flicker, who goes by 125 different common names, not so much maybe in the mountains as near farms. He's easily identified when he flies, by the conspicuous white rump. Watch for him at an anthill. He likes ants.

Your turkey has a keen eye, and a

Black and White Warbler



sharp ear—so the turkey hunters tell me—but he's got nothing on the pileated woodpecker. This big black bird (he's near the size of the crow) is a lot more common than people think. But he's just naturally shy, and when he sees and hears as well as he does you don't get much of a chance at him. When you do see him, you'll know who it is, because of his great size and because of his long red crest and the conspicuous white patch in the wings against the dull sooty black. He sounds from deep in the woods a whole lot like a flicker, but his call is slower and much louder.

Most Striking

The most striking of all the woodpeckers, resplendent in red, white and black, is the red-headed woodpecker, a real beauty, but perhaps a bit rarer than he used to be. If you see him at all, it will be in the more open stretches of the woodlands.

But here are some smaller birds scrambling up and down and all around the trunks of the trees, sometimes upside down. These are the nuthatches. Three of them are native to the Pennsylvania woods. The largest, though he's a far cry from the wild turkey, is the white-breasted; next in size is the red-breasted, a real cutie. Much less common and noticeably smaller is the brown-headed. It takes a sharp eye to make him out. Their call is a very nasal *ank-ank-ank*, and you can't go very far in the woods without hearing it.

Another little bird which likes to

Tufted Titmouse



White-Throated Sparrow

climb trees is the brown creeper. He will go round and round and up and down. In an hour's time he has inspected thoroughly forty-three trees. He likes the very deep woods.

You'll have trouble with the look-alike varieties of sparrows, but in the turkey country you're almost certain to see the white-throated sparrow, and from a distance you can recognize him by his very distinctive call, the familiar high pitched *Old Sam PEAbody-PEAbody-PEAbody*.

The song sparrow, the one with the black spot in front, sings *Pres-Pres-Pres-Presbyterian*. You'll see the tree sparrow, too, and the diminutive chipping sparrow, maybe the white-crowned sparrow.

There are many thrushes which belong naturally to the woods. They all have unforgettably beautiful, most melodious, songs. The wood thrush, who is smaller than the robin but larger than the bluebird, is, because of the round spots on his breast, the most easily identified. He likes the cool woodlands, and he will appear in Pennsylvania near the first day of the spring gobbler season.

The hermit thrush is generally quite shy, though his is probably the most beautiful song of all. The olive-backed thrush, sometimes called the swamp robin, you will also find only in the most secluded recesses of the deep woods. And that slender, light tawny-brown bird which you see running along the ground in the low and moist deciduous woodlands is the veery.

You are going to be exasperated in your efforts to distinguish among the



Cardinal

many warblers. In the first place they are tiny birds, and in the second place many of them resemble each other very closely. I'll mention just three for now. You'll want to get acquainted with the flashy redstart, everybody's favorite; and you'll quickly grow attached to the yellow warbler, who sings so proudly, *Sweet-sweet-sweet, I'm so sweet.*

But the warbler you will see and hear most during the spring gobbler season is the oven bird. He is the largest of the warblers, and anyone who has been much in the woods in spring and summer has heard the cheerful *cheechie-cheechie* or *teacher-teacher* of this ubiquitous bird. He is a deep forest bird, and he looks and behaves like a thrush. He is a ground walker, and you can recognize him by the orange crown and heavily streaked breast, as well as by the incessant call. He is named the oven bird, as many turkey hunters know, for his oven-shaped nest built upon the ground.

Brown Thrasher

The brown thrasher, who also resembles the thrushes in his appearance and manner, though he is larger and a very reddish brown, and has a yellow eye, you are almost bound to see. And to hear. He's a real singer with a richly varied and very melodious flow of notes.

Talk about a stream of notes, here is the thrasher's close cousin, the sleek and saucy catbird. He's the fellow in the gray flannel suit with black top hat. He is curious about everything and will investigate any strange sound.

You have a chance, too, for some

really exotic birds, always depending of course upon what kind of turkey country you are in.

The most brilliantly colored of our forest birds is the scarlet tanager (the fire bird). He is very common, but he is rarely seen by the uninitiated. Watch for him high in the trees in the rather open woods. He is the only bird you will see who is red with black wings, and he is *scarlet*. No mistaking him for the familiar cardinal or redbird, who has been calling out to you all morning, *What cheer, What cheer.*

Another real beauty is the towhee, in his black and white tuxedo with the chestnut stripes. He will be on the ground, scratching up leaves in a fury. He sounds like a flock of turkeys approaching, but you know that's not the case when you hear the clearly sounded *tow-whee* or *che-wink*.

The Baltimore oriole is a streak of fire in his bright black and orange. He is one of the flashiest of the spring birds and can be heard singing from high in the trees throughout the month of May his beautiful robin-like song. Don't expect him too deep in the woods, though.

Last spring gobbler season I watched for a long time a flock of rose-breasted grosbeaks (ten males) in some wild berry bushes along a small mountain stream in Potter County. I shall never forget their vivid black and white and that beautiful spot of rose.

You may have a flock of the glut-tonous black and yellow evening grosbeaks descend upon you, too. And, speaking of flocks, you are almost

Flicker



certain to see the cedar waxwing, perhaps the most sleekly handsome of all our birds, a very, very pretty bird. Watch for him to sit with his fellows all in a row, passing berries down the line politely and, some say (I have not seen it), all waiting patiently until each has a berry.

Smaller even than any of the woods warblers are the kinglets, the golden-crowned and the ruby-crowned. These tiny birds are very nervous, and there are a great many of them flitting among the coniferous trees. Watch for them.

The Lazy Bird

We don't want to forget the belted kingfisher (called the lazy bird), whom you have noticed perched on a wire or a limb over the fast moving waters of Tionesta Creek. He is looking for a fish dinner of course, and he announces that with a loud, harsh, rattling call. He's a bluish gray, with a large crested head and a spear for a bill.

Not all the birds out here are songbirds or flycatchers or tree climbers. There are hawks and owls, too. Probably where you are sitting, on your turkey watch, you will see the red-tailed hawk. He is the largest of the common hawks, excepting only the osprey, and he loves the Pennsylvania woods. He prefers to sit absolutely quiet, very erect on some dead limb, anywhere from twenty to forty feet from the ground. If you study him attentively you will notice that during the last minute his head has moved a little. You didn't actually see it move, but it has moved. He is scanning the floor of the forest, just as you are, on the alert

Blue Jay



Black-Capped Chickadee

for any mouse or chipmunk that may appear. He will pick a gray squirrel off a branch quick as winking if he has a chance. And one turkey hunter from Jefferson County told me about a fierce red-tail who actually pounced upon a big turkey gobbler. Needless to say, his dinner hopes were disappointed, but what a ferocious ego. His call is a long-drawn squealing whistle, sounding something like *kee-aahrr-r-r-r*. It freezes the forest.

I don't know exactly which birds you are going to see or hear. But I do know you are going to have a lot more fun on the turkey watch than you ever had before if you bring to it some feeling for these exciting personalities. All you need is the interest, a good field guide to identification, and a pair of 7 x 35 binoculars.

Of course, while you are studying that brown-headed nuthatch, the first one ever that you have identified, you may fail to notice the ghost-like arrival of Old Tom in your hollow. And he may see you raise your binoculars to the nuthatch and be gone. But . . . so what? There is always another day for turkey, and think how sharp your eye is getting, and how keen your ear, from all of this bird watching.

And when you get home from the morning's hunt, and the family raises the familiar query, "Well, where's the turkey?" you won't have to answer, "I didn't see a thing." You'll say instead, "Well, I didn't see any turkey, didn't even hear a gobble, but, would you believe, I saw this big flock of waxwings, and a blue-gray gnatcatcher, and a warbling vireo, and"



CENTRE HALL natives, left to right, Dave Homan, Donald Homan and Robert Homan show spring gobbler trophies. At right (and on right) is Mark Cline, of Carlton.



WARD



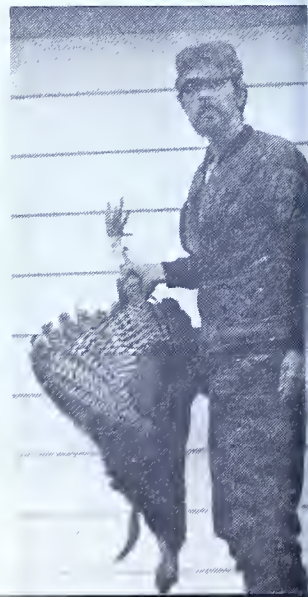
HENRY HEIM, New Cumberland, above; at right is Charles Haynes, Johnstown.



RON KLEVER, Jr., Butler 12-year-old; below is Byron Burlew, Old Bridge, N.J.



BELOW is Tony Foglietta, Luzerne; Melvyn Markle, Carlton, is on right.



**W
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...r., of Meyersdale.



AT LEFT, Earl Weinstein of Bechtelsville and son Mark. Chuck Sprague, Bradford, is at right.

G O B B L E R S

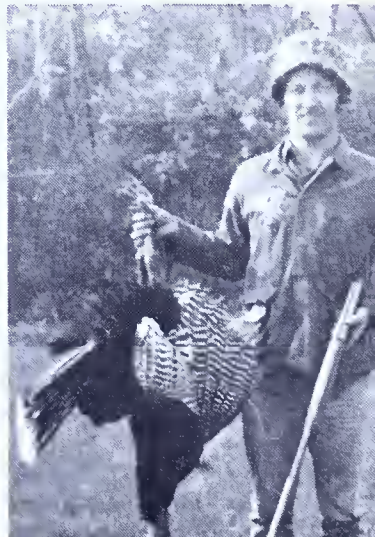


ABOVE IS G. L. Dittenhafer, York; at right is Dennis Piedmonte, Holley, N.Y., with Potter Cb. bird.



BOB SWOPE, Halifax, bagged this gobbler while hunting from Dry Run Camp, Clinton Co.

GARY HEFFNER, West Reading, below. At right is Paul J. Lingle, Lock Haven, with Clinton Co. gobbler.



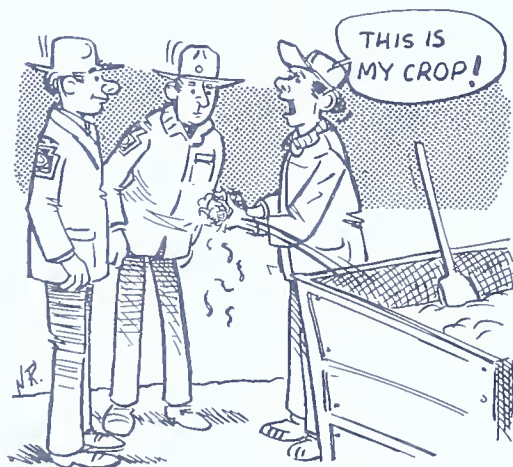


FIELD NOTES



Don't EVER Do That!

TRAINING SCHOOL—Last deer season, while talking with a gentleman, I suddenly realized I was being watched through the scope of a young lad's rifle. I ducked behind a tree and yelled a few choice comments. The gentleman turned red-faced and said it was his son. As I left, the boy was receiving plenty of safety instruction from his dad!—Trainee W. R. Dilling.



Worm Farmer

TRAINING SCHOOL—While on patrol with District Game Protector Barry Warner, we encountered a nonresident hunting without a nonresident license. The individual said he did not need a hunting license, as he was a farmer and was hunting on adjoining grounds. What did he farm, we asked. He said he was in the bait business and farmed worms behind his place of business, which he also claimed was his residence. Needless to say, we didn't take the bait, and a citation was promptly given.—Trainee S. A. Smithonic.

The Anti-Hunter

SNYDER COUNTY—With all of the recent publication on the anti-hunting issues, I think "hunters" should note that John Madson of Winchester-Western feels "the commonest form of anti-hunter is the outraged landowner whose property rights have been violated by slob hunters." These people are not always opposed to the hunting of wildlife, so much as the ways in which wildlife is hunted.—District Game Protector D. L. Myers, Selinsgrove.

True Sportsmen

LUZERNE COUNTY—On opening day of antlerless deer season, I noticed two hunters dressed in fluorescent orange clothes and carrying fluorescent bags walking along the highway. I stopped and asked, "Why aren't you in the woods hunting, instead of walking along the road?" They told me they had each taken a doe and had two buddies in the woods who were still hunting, so they decided to pick up some litter. I wish we had more sportsmen like Stanley Shusta of Kingston and Stanley Kowalczyk of Wilkes-Barre. Many happy and successful years of hunting to these two hunters.—District Game Protector E. R. Gdosky, Dallas.

Could Be, Andy

ERIE COUNTY—I wonder if the apparent scarcity of road-killed raccoon and fox in my district is related to the record high prices their pelts are now bringing?—District Game Protector A. Martin, Erie.

Trout Man

TRAINING SCHOOL—Trainee "Butch" Camp is having a tough time with the tree identification course here at the school. An ardent fly fisherman, Butch says, "There's only three kinds of trees that I know of—mayfly snappers, tippet tangles, and Cahill snaggers." Trainee R. A. Fala.



Slobs Blame Others

The Millersburg High School Conservation Club cleaned up a 10-mile stretch of Route 325, Clarks Valley (State Game Lands 211), on February 18. Three dump truck loads of trash were retrieved. On February 28, Deputy Wert and I apprehended several persons for camping and littering in this area. Would you believe they tried to convince me that this was a "junky" place that should be cleaned up?—Land Manager K. M. Zinn, Dauphin.

Nothing to It

ADAMS COUNTY—Recently a man called and said there was a skunk in his window well. I suggested he lay a board in the well so the skunk could walk out, or put a bucket on a rope and let the skunk crawl in and lift him out. He said, "I could never do that." A half hour later I was at the window well. The board didn't work, nor did lowering a bucket. Finally while talking to the skunk, I reached down very carefully and lifted him out by the scruff of the neck. The animal did not seem to mind a bit, but the homeowner watched from 25 yards away. I wonder what makes people think that a game protector can do things that they would not even attempt? My wife says that incidents like this make her wonder about my intelligence.—District Game Protector G. W. Becker, Aspers.

Cozy!

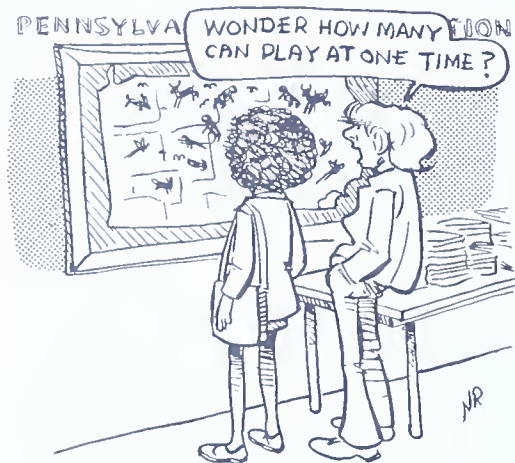
WASHINGTON COUNTY—A recent caller asked if it was legal to take his dog with him while crow hunting. Out of curiosity I asked what kind of dog he had. "A collie," he replied. My next question was "What does he do, retrieve the crows?" The caller replied, "No, I use him to keep warm. We snuggle up together while waiting for the crows to come in."—District Game Protector J. M. Kazakavage, Washington.

Where-to-Go

LACKAWANNA COUNTY—Most of the outdoor magazines have a where-to-go column, so I thought **GAME NEWS** readers would find this tip helpful. The following was related to me by Wally Strempek, Scranton, nicknamed Mountain Man by his friends because of his knowledge of the vast local woodlands. During the past bear season, Wally heard a shot close by and walked over to find a lucky hunter dressing out a nice bear. Wally asked the man where he was from and how he had chosen this particular spot to hunt. The hunter replied that he was from York County and had read in the **GAME NEWS** that Monroe County had the most road-killed bears and so was hunting here. That sounded logical—but he was in Lackawanna County, where only three bears were killed this season.—District Game Protector C. P. Cinamella, Moscow.

Real Service vs. Lip Service

MCKEAN COUNTY—During January I received many calls about why the Game Commission wasn't doing something about the starving deer. On February 14, in cooperation with the Allegheny National Forest and the Bradford Sportsmen's Club, a browse-cutting project was held on the North Fork of Sugar Run. It was a bright sunny day, and the club had a hot dinner for those present. But only 18 people showed up to help. They cut approximately seven acres. Funny thing, though—the folks who had called me in January did not put in an appearance. Must be easier to complain than to help do something about it.—District Game Protector G. W. Waldman, Lewis Run.



What Game?

CHESTER COUNTY—At the Philadelphia Sports Show, several high school students studied two outlines of the state which had pictures of birds and animals pasted on the areas where these particular creatures could be found. The title above these maps read **PENNSYLVANIA GAME COMMISSION**. The students checked out all the literature on the tables for their use, and then came over to the desk and asked, "Hey, mister, how do you play this game?" It makes one wonder just how far the sports field has come in reaching the city and non-hunting public.—District Game Protector E. T. Clark, Cochranville.

Mast Shortage

HUNTINGDON COUNTY—It would be nice if the "early spring" we enjoyed in February would be the real thing. However, it may be disastrous to early blooming trees and shrubs that wildlife relies upon. Two years in a row without a good mast crop would indeed be very costly to our wildlife populations.—District Game Protector E. N. Gallow, Alexandria.

New Method?

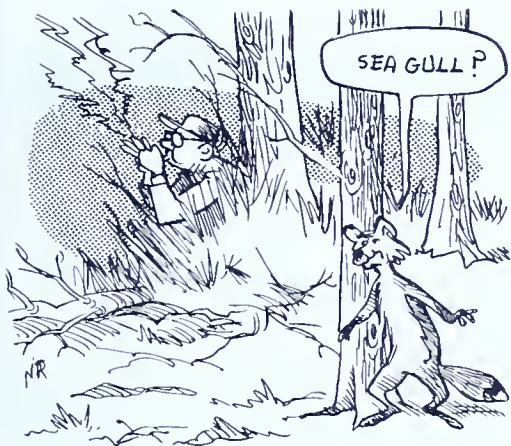
ERIE COUNTY—Deputy Nyle Estes was checking small game hunters last season and came across a man field-dressing a ring-necked pheasant. He had split the bird from the crop clean to the tail. When asked about this method, he assured Deputy Estes that he had cleaned many birds and this was the proper way.—District Game Protector W. Lugaila, Waterford.

Disappointed

BUCKS COUNTY—A personality from a local radio station telephoned several times during the deer season to inquire about the number and seriousness of hunting accidents in the county. After having been advised for the third time that there were no accidents to report, he replied, in a voice which seemed to convey disappointment, "Well, thanks anyway. I'll call again tomorrow."—District Game Protector W. J. Lockett, Perkasio.

Infernal Machines

TRAINING SCHOOL—With spring solidly here, it is time for the annual renewal of the woods. Humans should remember that this is a critical time for young animals and care should be taken when riding motorcycles off the road. These machines often have a harmful effect on the nesting and young-bearing habits of animals, plus they add to the spring run-off and erosion.—Trainee L. C. Hribar.



"Them Hillbilly Deer"

ALLEGHENY COUNTY—I talked with a person not long ago who is very much anti-hunting and trapping. She stated that she had documented proof that the Pennsylvania Game Commission imported deer for the hunting season from West Virginia. She has promised to show me this proof, but as yet I have seen nothing.—District Game Protector S. E. Lockerman, Pittsburgh.

A Minor Detail

WASHINGTON COUNTY—A good friend who is a well-known journalist related to me a dilemma that a professional associate of his recently experienced. His associate, whom we shall call "Dave," became interested in fox hunting. After spending many evenings reading up on the sport, Dauntless Dave was ready to give predator calling a try. He finagled an afternoon off from the office, donned his newly purchased hunting togs and took his most prized possession—a brand new predator mouth call. After slinking through the woods, he nestled down behind a windfall and started to call. All his attempts resulted in dead silence. Dauntless disgustedly gathered up his gear and trudged out of the woods. Upon returning to the office the next day, Dave was dismayed to learn that after doing everything by the book, his only mistake was blowing on the wrong end of the call.—District Game Protector J. M. Kazakavage, Washington.

Out of the Yards

FOREST COUNTY—During January and early February, we had close to 30 inches of snow on the ground. Several camp owners in my district asked about the absence of deer, as they had not seen any. Then the snow melted off in late February, and on the 28th I counted 38 deer in one field near my home.—District Game Protector E. Taylor, Tionesta.

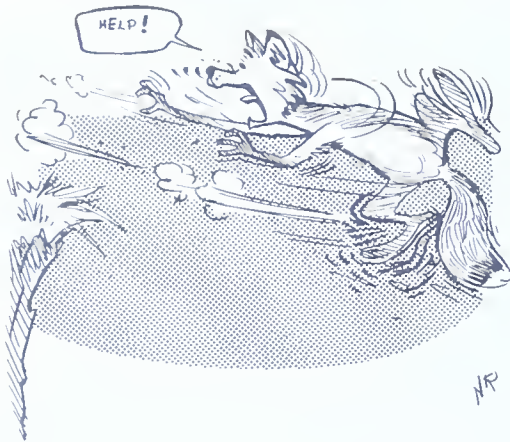
Pure Pleasure

MERCER COUNTY—During February, I had the pleasure of participating in the McKeever Environmental Learning Center's "Earth Keeper" series with fifth and sixth-graders from various school districts. The interest and conduct of these young people was commendable. They renew one's faith in mankind and turn work into pure pleasure.—District Game Protector B. K. Ray, Greenville.



Early Migration

YORK COUNTY—Many flocks of geese were sighted flying north the third week of February. Seems they wanted to contradict what the groundhog forecast about winter.—District Game Protector R. L. Yeakel, Red Lion.



Help!!

SOMERSET COUNTY—Twice in the past month while on night patrol, I saw a fox (one a red, one a gray) dart across the road full tilt and leap gracefully over the bank. This may not seem too unusual, except that in both cases the bank dropped off steeply and the magnificent body form began to crumple as the poor critter realized he was ten feet off the ground with nowhere to go but down. It was kind of like the Wiley Coyote's panic-stricken look when he discovers that he just ran off the cliff in pursuit of the roadrunner.—District Game Protector R. J. Askey, Somerset.

Gave 'Em a Brake

While following an Air Freight truck along a narrow road in Westmoreland County, we got held up by a rural mailman who couldn't get completely off the road. After a while, we were able to get past and the actions of the truck driver indicated he wasn't too happy about the deal. We had just traveled a short distance when, on a sharp curve, the truck driver slammed on his brakes. I was surprised when I eased up behind him and saw him letting two hen pheasants cross the road in safety.—Conservation Information Assistant John Badger, Ligonier.

Double Coincidence

VENANGO COUNTY—I recently overheard two hunters swapping their experiences of hunting deer this past season. Both shared the unusual experience of bagging a buck, only to find that the deer, once down, had no visible antlers. Imagine! After a fruitless search for the antlers the buck must have shed after being shot, and subsequently resigning themselves to the fact that it must not have had antlers, each realized he would have to turn in the deer as a mistaken kill. But when each reached down to pick up his deer, he realized there was an antler (only one) still on the deer—but hidden in the snow.—District Game Protector L. Yahner, Franklin.

From FDR

TRAINING SCHOOL—I came across a short paragraph which in a few words captures an entire philosophy. The words are Franklin D. Roosevelt's, but the feeling is also mine. President Roosevelt said: "The only real capital of a nation is its natural resources and its human beings. So long as we take care of and make the most of both of them, we shall survive as a strong nation, a successful nation and a progressive nation—whether or not the bookkeepers say other kinds of budgets are from time to time out of balance."—Trainee G. W. Beaumont.

And So George Got His

TRAINING SCHOOL—With field training over, things are routine back at the training school and it's hard to come up with good Field Notes. As the end of the month draws closer, each trainee resorts to his own method of coming up with a topic. Last night I overheard John Shutter practicing his favorite method. Staring out the dorm window at the star-filled sky, he said, "I sure wish someone would do something stupid tomorrow, I need a Field Note bad."—Trainee G. A. O'Hara.



By Ted Godshall

29,914 Roadkills in 1975

GAME COMMISSION personnel picked up 29,914 whitetails from Pennsylvania's highways in 1975. This is a record number, 3469 more than the previous highest total, in 1974. These figures include only those animals which were physically removed from the state's highways by commission personnel.

The number of deer killed by vehicles in Pennsylvania exceeds the number of whitetails harvested by hunters in approximately 35 other states.

When the speed limit for all vehicles was reduced to a maximum 55 miles per hour nationally, some conservationists thought that the number of deer-vehicle collisions would drop, but that does not appear to have been the case.

Disposal of each deer killed on a highway usually involves at least several man-hours of time and several dozen miles in distance, so the cost to the state's sportsmen (whose purchases of hunting licenses pay the bill for removing the animals from Pennsylvania's roads) runs into hundreds of thousands of dollars.

Leading counties in highway deer kill in 1975 were Westmoreland with 1092; Schuylkill, 1071; Venango, 1019; Potter, 1014; Bucks, 961; Pike, 947; and Clearfield, 912.

Included in the totals were twelve deer killed by vehicles in Philadelphia.

Total recorded deer mortality in the state last year, other than those taken



DAUPHIN CO. DGP Jack Schweitzer prepares to load roadkilled doe onto deer rack. Disposal of such animals costs many thousands of dollars yearly.

by hunters, came to 37,792, an all-time record. The previous mark, 34,421, was established in 1974. Increases were recorded in several other categories of deer mortality last year. In 1975 there were 1546 whitetails taken for damaging crops. The figure for 1974 was 1413. Last year there were 627 deer known to have been killed by dogs, a slight jump from the 524 whitetails which were pulled down by canines in 1974.

Game protectors recorded 4923 illegal deer kills in 1975, a decrease from the 5398 chalked up in 1974. Losses of deer in other categories last year totaled 782, compared to 641 the preceding year.

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Archers Take 5061 Deer



DAVID LANDIS, Conestoga, was one of over 5000 archers who bagged whitetails in Pennsylvania last year. Landis's fine trophy was an 8-point buck, the kind that every bow hunter hopes to take some season.

PENNSYLVANIA'S archers had another good year during the 1975-76 hunting seasons, according to reports filed with the Game Commission. Archers reported taking a record 5061 whitetails in the state, compared to 3909 the previous year, when the old archery harvest record was established.

Bowmen reported taking 2096 antlered deer, including 1190 with three or more points and 906 spike bucks. Archers took 2371 females and 594 males in the antlerless harvest. Overall, 2690 males and 2371 females were tagged.

Resident archers took 645 spike bucks and 1005 with three or more points, for a total of 1650 antlered deer, while they reported tagging 434 males and 1732 females in the total antlerless bag of 2166. Altogether, residents accounted for 3816 deer.

Nonresident Totals

Nonresident bowhunters reported taking 261 spike bucks and 185 with three or more points, for a total of 446 antlered deer, while they reported tagging 160 males and 639 females in the total antlerless bag of 799. Altogether, nonresidents accounted for 1245 deer.

Interestingly, the compound bow, which was legalized for hunting just a few years ago, was used to take 1714 deer, just about one-third of the whitetails taken with a bow.

Archers took 4353 deer during the regular fall season which opened September 27 and closed on October 24, and another 708 during the winter season which opened December 26 and closed on January 17.

Burrow Builder

The muskrat often builds a bank burrow with an underwater entrance. Its home burrow may be a complicated structure, with several passages and a nest chamber.

The Eyes Don't Have It

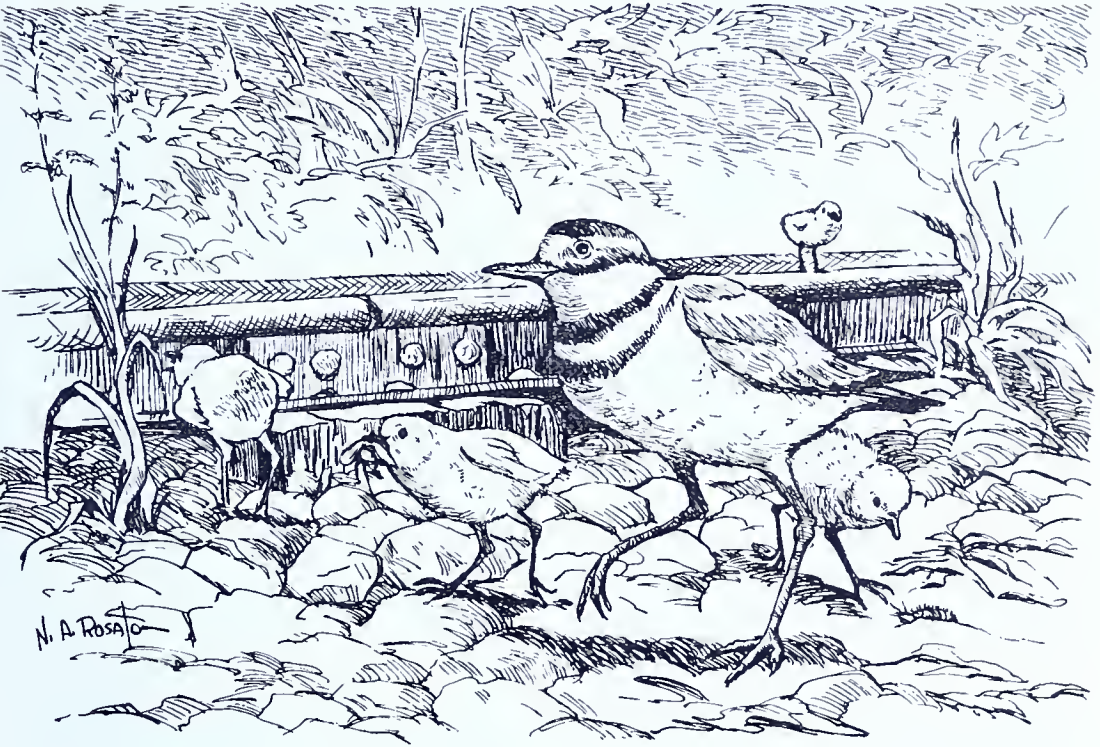
All bears, except polar bears, depend on their ears and nose for defense against intruders as their eyesight is very poor.

Not Made for Walking

Loons have exceptional diving ability. Their legs are placed so far back on their bodies that they can't walk erect on land but move by sliding on their breast.

CHAR THE KILLDEER

By Carsten Ahrens



CHAR AND HIS parents hunted insects along the old railroad grade, where each morning an old milk train clanked by.

CHAR, the killdeer, cracked his egg-shell in a most unlikely spot. It was a slight indentation in the bed of an old railroad track. His and the three other buff-colored eggs, all with black hieroglyphic-like markings, filled the depression midway between two wood ties to which the rusty iron rails were anchored. Each morning a slow milk train clanked through the meadowland and every afternoon it went clanking back again.

The four eggs were much smaller at one end than at the other and they all lay with the small end pointing inward. The old bird made the depression smooth and hard, using the smallest pebbles, and then had selected bigger and bigger buff and black stones to ring the nest. When the eggs were laid, they just seemed to be four more buff-black stones. A family of eight fat little skunks waddled over the nest every

evening when they went hunting along the creek, but not a one of them ever discovered the tasty eggs lying right under their feet!

The four eggs had been laid in mid-May. Just about two dozen days later they were four bright-eyed, inquisitive bits of salt-and-pepper cotton fluff scampering about on long, slender legs. The baby killdeers were a decided contrast with their closest neighbors, a nestful of meadowlarks. These five young ones had pipped their shells over a week before the killdeer chicks had hatched, but they were still blind and helpless in their nest, a roofed shelter completely hidden in a last-year's clump of purple asters. The two bird families were both almost 100 percent insect-eaters, but the meadowlarks had an elaborate nest while the killdeers had almost none at all. The old meadowlarks spent most of the hours



OFTEN THE female put on a show to lure a predator or a human passerby away from her chicks. She acted as though she were badly wounded, drawing attention to herself.

between dawn and sunset finding and carrying insects to their nest-bound young—while the young killdeers were merely supervised as they hunted for insects, which were eaten on the spot.

When the young meadowlarks were finally able to leave the nest, they were terrified by the noisy milk train. The killdeers gave it little heed. While she was building her nest, the old killdeer would run from the right-of-way and then fly a short distance as the train came clanking along. By the time the eggs needed incubation, she simply crouched a bit lower on the nest as the noisy contraption passed overhead.

By the end of July, the young killdeers could fly as well as run. Both acts were great fun, and they performed them with speed and grace.

There were plenty of hungry predators about the meadowlarks in addition to the family of skunks. However, the old male killdeer was constantly alert. When they heard his sharp whistle, Char, his brother, and sisters knew something was amiss—either there were hawks overhead, a man coming, or a weasel, raccoon, or a dog on the prowl. His “Kittle-dee” meant even more than that. It told them to run or fly. Or to “freeze” where they were, for so nicely camouflaged is a killdeer that at almost any time it can blend

perfectly into its surroundings by simply standing still.

Char’s parents looked just alike. Each had a grayish-brown back and tail, white front and under-parts, a black stripe between the eyes, and two bold bands of black across the chest. Killdeers belong to the plover family but can be distinguished easily from their plover relatives by these double bands. Yet when Char’s parents went into action, they seemed like completely different birds.

Often the old bird, in order to save her chicks, would put on a real show when a predator hunted near. She acted as though she were frightfully crippled, dragging her wings, tumbling over and over, and crying pitifully. At this time, a long white bar flashed in each wing, and the feathers on the back (normally covered by the wings) showed up a red-gold. It was as though a light were turned on, and the “wounded” bird got all the attention. Skunks and mink overlooked the young as they attempted in vain to catch the “cripple”—which managed to stay just beyond reach of the pursuer. When the old bird decided the predator was a safe distance from her young, she would give a long, keening whistle, quite unlike her usual, lively “kittle-dee” call. Then she would return to her chicks on swift, sure wings.

In spite of the constant care provided by the old killdeers, tragedies occurred in the little family. One female died even before her down had changed to feathers when she crossed a road that was being repaired. The more she struggled, the more hopelessly she ensnared herself in the fresh, sticky asphalt.

Killdeers, unlike meadowlarks and most other birds, are as active at night as they are during the day. One night Char’s brother was flying and calling “Kittle-dee-dee” just for the fun of it. Far below him, a highway unfolded, twisted and turned in the moonlight. It looked like a beach. The bird plunged downward, swept to a landing on rapid feet, only to be struck and killed by a glare-eyed monster that roared past.

(Continued on page 44)

Downward Trend Continues

THE QUALITY of life in the United States, measured by seven environmental yardsticks, continued on a downward trend in 1975 for the sixth consecutive year, according to the National Wildlife Federation.

The environment suffered setbacks in five of the seven "vital resource areas" surveyed in the conservation organization's seventh annual Environmental Quality (EQ) Index report. It moved ahead in only one area—air quality—and held its own in another, timber resources, while falling behind in water quality, soil, wildlife, minerals and living space.

These trends produced a National EQ Index of 350 on a scale where 700 represents the best possible environment. This is a drop of six points from the 1974 mark and is 45 points below the National EQ Index for 1969, the first year of the NWF survey. All seven indicators have declined since the first survey.

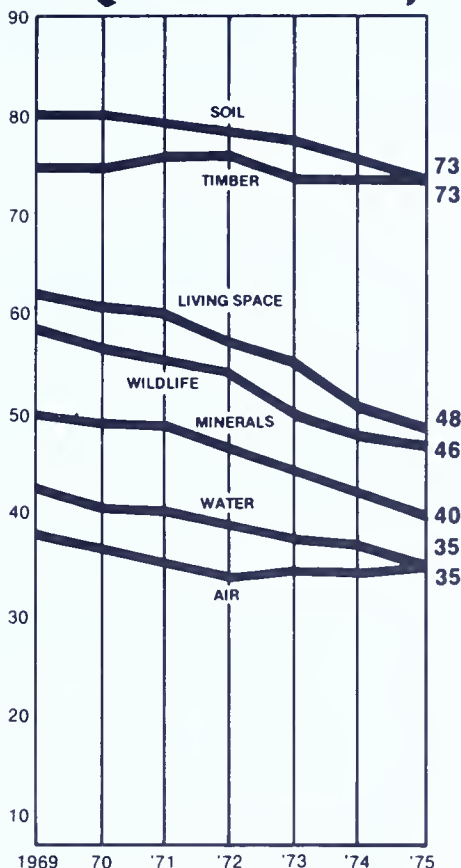
"It would be nice to report in this year of the American Bicentennial that the quality of life in the United States is quickly on the mend . . . (but) unfortunately, such is not the case," *National Wildlife* said. As one of the few encouraging signs in a generally somber picture, the magazine cited the fact that "polls still show undiminished public support for environmental goals."

Here are summaries of the EQ Index findings in each resource area:

AIR QUALITY

Up slightly. Air pollution, which costs \$12.3 billion annually in damage to health, property and crops, is diminishing even though the country failed to meet the May 31, 1975, goals

EQ Summary



decreed by the Clean Air Act of 1970. Sulfur dioxide pollution has been cut by about 25 percent and carbon monoxide by more than 50 percent. Even with this and other gains, 65 percent of all regions reported pollution in excess of national standards.

TIMBER

No change. More timber is being grown, it is being used more efficiently, and Congress is spending more money on reforestation—\$51 million to replant 400,000 acres last year. However, with imports, the U.S. is still using more timber than it cuts, and controversy over multiple use forest management and clearcutting clouds the future of 92 million acres of federal government forestland.

WILDLIFE

Down. Six animals were added to the Endangered Species list, bringing the total to 126. Loss of habitat is still the

chief threat to wildlife; about 1.2 million acres of land were converted from rural to urban use while only 86,000 were added to our national refuges. Pesticides are still a major problem, although lower levels in the food chain have increased the probability of successful reproduction by some birds.

SOIL

Down. American farmers plowed up five million acres of soil bank land and four million acres of grasslands and woodlands in order to produce record corn and wheat crops, plus the second biggest soybean crop in history. At the same time, 2.2 million acres of valuable farmland were lost to other uses.

MINERALS

Down. U. S. crude oil production fell to its lowest level since 1966. Estimates of oil reserves have been revised sharply downward by the U.S. Geological Survey, and oil shale remains an economically and environmentally unattractive energy source.

WATER QUALITY

Down. Although the release of impounded sewage funds has helped ease the problem, some 9000 communities serving 60 percent of the population

will not meet the government's 1977 first stage deadline for a sewage cleanup.

LIVING SPACE

Down. Seventeen states enacted land use laws, but generally the country continues to grow and develop without coordinated land use planning. The year 1975 saw Congress torpedo a vitally needed land use bill, and the President veto strip mining legislation. In the next ten years an area larger than the state of New Jersey will be urbanized.

The EQ Index, based in part upon statistics and in part upon the "combined judgment" of NWF experts, has been commended as an authoritative journalistic evaluation of the "quality of life." It is prepared each year as a special report to Associate Members of the NWF.

Single copies of the 12-page report, reprinted from the February-March 1976 issue of *National Wildlife*, can be obtained free of charge by writing to Educational Services, National Wildlife Federation, 1412 16th St. N.W., Washington, D.C. 20036. Additional copies, up to 100, are priced at 25 cents each, and in quantities over 100 at 15 cents each.

(Continued from page 42)

Then, just before migration time, the other sister was caught in a bird net—put up by a group of birdbanders who, at summer's end, had forgotten to take down the filmy traps. She was enmeshed in its folds a long time before anyone found her, and then it was too late.

When migration time came, Char and his parents joined the plovers and other shore birds to follow the irregular Atlantic coastline to South America. It was all very new and wonderful, but it seemed strange to Char; he was constantly homesick for the faraway, northern meadowland.

One night in late February, the old

man who lived with his hound in a cabin near the old tracks was awakened after midnight. There had come a sudden, warm winter-break. The old man smiled as he lay and listened . . . the old hound slowly lifted his head . . . the very land, old and winter-weary, seemed to listen . . . to a lone killdeer flying and calling across the dark dome of the sky. The season had been long. And although the man and beast and land were longing for the sounds, the welcome calls came unexpectedly and died away slowly as rapid wings carried the bird to some vague destination. Now everything was all right. Char, the killdeer, was back in the meadowlands for the new year.



HUNTER EDUCATION

By John C. Behel
PGC Hunter Education Coordinator



Identify Your Target!

ONE OF THE primary rules of safe gun handling is to identify your target. This basic safety rule is further strengthened by Game Law regulations, for during the spring gobbler season only bearded birds may be taken, requiring close target scrutiny. But for some reason, each year more persons are being shot in mistake for turkeys than any other bird or animal hunted.

Hunting accidents show that many hunters—experienced and beginners alike—aren't identifying their targets. In fact, if your turkey caller yelps while it is being carried in your coat pocket, you had better take steps to silence it. During a recent spring gobbler season, one hunter was shot in mistake for turkey, primarily because of his call.

The hunter who shot the man told this story: "I began to give loud mating calls of the hen. After calling for ten minutes or so, I suddenly heard several clucks in front of me about 75 yards away. I was not sure it was a bird. I was not excited, for I am always pessimistic about turkeys. Soon I saw a movement about 50 yards in front of me behind some laurel, but I did not know what it was. I did not even think about shooting, for I have called in more deer and men than turkeys. Within a few seconds, I saw the movement again to my left, but again I did not shoot. I could see something there but could not identify it. In a few more seconds, I saw it again. At this time I made an absolutely positive identification of a turkey. At no time did I view the

victim's body from the waist down. There was somewhat of a drop-off in the terrain which prevented this.

"The victim was dressed in a vertical tiger-stripe camouflage outfit with a red-and-black wool shirt under it. The collar was pulled out from under the camouflage toward the front of his neck. His cap was camouflage. He did not turn his face toward me, nor did it show in silhouette. He must have been looking slightly away from me. I *saw* a large gobbler with some red and white on its head. The white apparently was from the edge of his cheek, and the red was from the wool shirt. The tiger stripes gave the appearance of feathers. I did not see his head, except for the cheek area. The sunlight was filtering down into the clear area, making some spots dark and others bright. The man looked exactly like a turkey when he passed through the clear area. In addition, he was moving in almost total silence, except for a call in his pocket, which made a slight yelping noise when he moved. I was not excited, for I have done an above-average amount of hunting. I swung my gun up, put the bead on the red, led him and fired. If he had been a turkey, I would have hit him exactly where I wanted to.

"It's hard to accept the fact that I shot another hunter in mistake for a turkey. *I saw a turkey in my own mind.* I am a

very cautious person and have had no hunting accidents. In addition, I have completed two hunter training courses and I was raised as an outdoorsman. I have shot competitive archery, trap, skeet and pistol. But I understand that I did not exercise sufficient caution. However, I'm very puzzled, because I did see a turkey in my mind and I was not excited. I doubt if I will ever shoot another man. Also, I don't think I will ever wear camouflage in gun season. If I could shoot a man for a turkey, then I feel that others are even more likely to do so."

Another hunter identified a red shirt collar as a turkey, another a red glove as a turkey, and another a hunter's movement after answering a call. What it all boils down to is that accidents keep happening. This supports the opinion that every hunter should wear fluorescent orange.

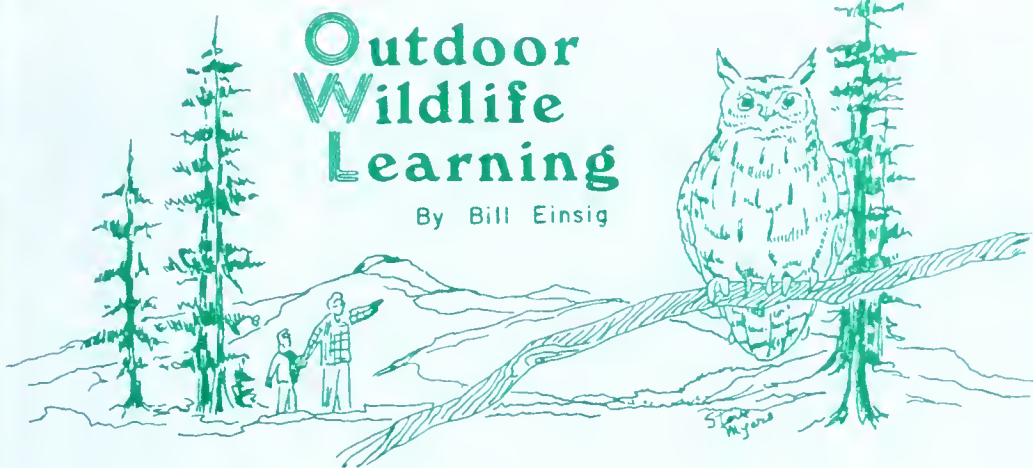
Granted, a turkey may be sharp enough to detect the blinking of an eye and especially other pronounced movement, but detecting color is something else. Just how color blind birds or animals are, or how reflective certain colors appear to wild creatures, are not really the issues. What we are really talking about is your safety while hunting. Remember—wear fluorescent orange and, above all, identify your target!

GAME NEWS Cover Prints Available

In answer to numerous requests, we can now supply a selection of GAME NEWS covers in a size and format suitable for framing. A set of four covers, all by internationally-acclaimed wildlife artist Ned Smith, now is available. These are full-color prints, enlarged to 9x12 inches on 11x14 heavy, coated paper, without the GAME NEWS logo. The set includes Ned's woodcock from the April 1974 issue; the woodchuck from July 1974; the doves from September 1972, and the buck and doe from the December 1971 issue. These prints are not available individually. The price is \$3 per set, delivered. Make check or money order payable to Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.

Outdoor Wildlife Learning

By Bill Einsig



Coloring Books!!

The mere mention of coloring books reminds most of us of idle rainy days of years past—an activity for children only. But what if a series of quality graphics depicting wildlife, wildflowers, and birdlife included informative text describing habitat, range and natural history? What if the oversize format used 100 percent recycled paper heavy enough for framing? Such a series has been produced and should find its way into classrooms and homes across the nation.

OWL asked the staff of Hayshire Elementary School of York to evaluate the series and received in return a long list of possible activities ranging from development of motor skills and reading enrichment to creative writing and plant and animal identification. At the secondary level the books offer the perfect interdisciplinary blend for both biology and art courses and, in addition, the individual books make beautiful gifts that will teach anyone about our natural world.

For further information and a catalog, write to Troubador Press, 126 Folsom Street, San Francisco, Calif. 94105.

Field Microscope

The Portascope Field Kit by Bushnell Optical Co. is worth examining by any outdoor instructor. The well-known optics manufacturer has ingeniously blended a rugged binocular and low-power microscope into a flexible field unit that should fit any budget.

The 8x30 binoculars are built in a frame of durable fiberglass sealed against water and dust, and even float if accidentally dropped overboard. A center hinge allows adjustments for any variation in eye separation, while thumb focusing on each eyepiece permits rapid use by all students.

To convert to microscopic use, the binoculars are inserted into the Portascope stand, which uses the optics of the binocular to form a 16X unit. The microscope has its own focusing controls, a built-in D.C. light source and a movable stage that withdraws completely for direct viewing of gross specimens through an opening in the base. An adapter stored in the base of the Portascope permits the use of a Kodak Instamatic 134 for photomicrographic work. However, this feature appears to have been a design afterthought in that there is no convenient way of calculating exposure for using on-camera flash. Anyone hoping to use the unit as a photographic instrument should shoot several test rolls with various lighting arrangements to develop a system that works consistently.

The entire unit fits into a carrying case complete with shoulder strap, three clear plastic specimen boxes, scalpel, and forceps. Total weight of the field kit is just shy of four pounds, making it convenient for almost any student.

Ask to see the Portascope at sporting goods stores that handle Bushnell products or write for information to Bushnell Optical Co., 2828 Foothill Boulevard, Pasadena, Calif. 91107.

Track Casts

Larry Sipe, Somerset, has reminded OWL of an interesting activity that could be of value for spring trips afield. While most wild animals are secretive and shy away from human interlopers, they often leave tracks behind that can tell a story of their own. Such tracks can be permanently recorded in plaster of paris casts and used in a wide variety of imaginative ways.

The basic technique is actually quite simple. After a clear impression is located and debris carefully cleared, a one-inch

strip of cardboard 15 - 20 inches long is placed around the track as a mold. If the soil is very wet, dry plaster of paris can be dusted over the track to absorb excess moisture. Plaster of paris is carefully mixed to the consistency of pancake batter and poured slowly into the mold. After setting, the cast can be removed and taken home to harden completely. Then it can be cleaned, sanded and painted if desired. This kind of cast is often called a negative because the track is viewed as a raised form.

A positive cast similar to the original depression in soil can be made from the negative. Linseed oil or vaseline is first spread over the surface of the negative and a cardboard strip formed around the original cast. A second batch of plaster of paris is poured into the mold. After setting, the casts are separated, cleaned and varnished or painted.

Deep undercut tracks are difficult to restore as positives due to the troublesome task of separating negative and positive casts. For this reason, many collectors use gelatin or sulfur to make the negatives. These materials can be melted from a

plaster of paris positive in a warm oven.

One of the best descriptions of this technique is given by William Hillcourt in *The New Field Book of Nature Activities and Hobbies*, published by Putnam. Hillcourt even explains a method for making casts of tracks in snow! Give it a try and good luck!

Summer Workshop

The Conservation Education Laboratory for Elementary and Secondary School Teachers will be offered once again this summer from June 21 to July 9. If you're interested in being brought up to date on available materials and teaching ideas for resource management, contact Dr. H. Seymour Fowler, Director, Penn State University, Pennsylvania Conservation Education Laboratory, 150 Chambers Building, University Park, Pa., 16802, or phone (814) 865-1807.

Send your ideas and comments on O.W.L. to:

Bill Einsig
1912 Karyl Lane
York, Pa. 17404

Books in Brief . . .

(Order from publisher, not from Game Commission)

The Poconos, by Thomas H. Knepp, 706 Scott St., Stroudsburg, Pa. 18360, 146 pp. paperback, \$1.90. Described as a handbook and guide to Pennsylvania's vacationland, this well-done publication gives a wealth of details on the recreational possibilities of our northeastern region.

Bird Dog Guide, by Larry Mueller, Stoeger Publishing Co., 55 Ruta Court, S. Hackensack, N.J. 07606, large format, 207 pp., paperback, \$6.95. Covers all popular and many seldom-seen hunting breeds. Authoritative details on choosing, training, breeding and hunting with gun dogs, plus good information on dog care, field trials, etc.

The Wild Gourmet Cookbook, ed. by C. Kenneth Ramage, Lyman Publications, Rt. 147, Middlefield, Conn. 06455, 256 pp., spiral-bound paper, \$6.95. More than 300 wild game recipes, related sauces, stuffings, etc. Separate sections give details on the field-dressing of big game, small game, and gamebirds.

Getting Started in Treasure Hunting, by Alan Smith, Stackpole Books, Cameron and Kelker Streets, Harrisburg, Pa., 192 pp. paperback, \$3.95. Tells outdoorsmen how to get involved in a new—and perhaps profitable—hobby for the off-seasons of the year. Practical guidance interwoven with fascinating stories of treasures lost and found.

Mastering the Shotgun, by Richard Alden Knight, revised and updated by Bob Bell, E. P. Dutton & Co., Inc., 201 Park Ave. South, New York City 10003, 127 pp., \$7.95. Step-by-step instruction for hitting gamebirds and clay targets through the use of Knight's "Contraflex" shooting technique.

Lyman's Black Powder Handbook, C. Kenneth Ramage, ed., Lyman Publications, Rt. 147, Middlefield, Conn. 06455, 242 pp., large format, paperback, \$6.95. For the technical minded, extensive loading information on black powder revolvers, rifles, muskets and shotguns, plus ballistics for many combinations. For those interested in field results, articles describing recent black powder hunts in Africa and Alaska as well as closer home.

READERS ALSO WRITE

by Susan M. Pajak

IF ANYTHING brings on a case of the super goosepimples quicker than a 9 x 12 brown envelope from an editor to a columnist—not columnist to editor, mind you, but editor to columnist—it surely hasn't surfaced as yet. With the same kind of gut feeling you get knowing it's sure to rain just as soon as you finish washing the windows, so does a columnist know that in that brown envelope will be a gathering of letters from our readers who also write. And these letters will have to be answered.

Unlike a paycheck envelope, however, this brown 'thing' is seldom opened immediately (I prefer to let it ferment a day or two) because a writer is never prepared either mentally or physically for the missives it carries.

Some letters will lavish on her bright, verbal bouquets for an article she has written and offered (and heaven knows we all need to be lavished occasionally), while one or two bulging epistles may offer her buffalo chips in assorted sizes . . . with specific directions for use . . .

So while I am donning my complete suit of armor in preparation of this month's collection let's sneak a look at a few.

A handwritten letter drenched in criticism which came in from Mr. L. of Coopersburg did not approve of my using the two words *beautiful* and *saint* for a self-description in a column awhile back (Jan. '76). Using about a hundred choice and juicy words himself, Mr. L. pointed out that it was unspeakably vain to think of myself as being either, etc., etc.

In reply I can say only that such descriptive words were never used in self-admiration (I know what I see in my mirror); they were used only as words put into play by a writer to lend continuity to either a paragraph or an entire article.

To me, Mr. L. quite obviously, and totally, misinterpreted these words.



SOMEHOW, Pajak doesn't appear much like a "beautiful saint" while answering letters. However, it's an essential part of any columnist's job.

Indeed, he did an excellent job of misinterpreting the entire article! And all I will say is . . . tough bananas.

From Chup and Robbie Curzi of Tallmadge, Ohio: " . . . do you have a good crock pot recipe for venison roasts? My wife, Robbie, has just started hunting and she is sure that this fall a 10-point has her name on it so we need a recipe. We are transplanted Pennsylvanians, she from New Castle and I from Butler."

Maybe a nice letter from Janice Belk of Media has a suggestion. She says that her husband, and son, Tom, age 13, both got deer last season and sends along this cooking tip: "What I am writing about is a very good recipe

GIRLS, GUNS, & GAME...

for venison. When butchering the deer, cut as much stew meat as possible. Take about 1½ pounds of this stew meat, add one can celery soup and one can of onion soup. Put in the crock pot to simmer all day."

(Is it any wonder that cooking is becoming a drag for the housewife? If it isn't a microwave oven cooking everything in Olympic-record time, it's the crock pot that takes all day to get things going. Each has its advantages, I suppose, but I think I'll stick to peanut butter and jelly sandwiches.)

Those united in the love of early American history will find interest in this letter from Mrs. Carolyn B. Milligan, Assistant to the Librarian, American Philosophical Society Library, 105 South Fifth Street, Philadelphia: "... the Lewis and Clark Journals were deposited by Thomas Jefferson and Nicholas Biddle, 1817-18, and are manuscript journals of travels to the source of the Missouri River and across the continent to the Pacific Ocean, 1804-06. There are some 18 bound codices and 12 loose-leaved codices. The Library is open Monday - Friday, 9 - 5, except for national holidays. One may request to see the journals for research purposes or personal interest. Groups of over 10 must make appointments."

If there are further questions I'm sure Mrs. Milligan will be only too

happy to answer them if you will but write her.

Musn't overlook our successful lady deer hunters: Mrs. Carol A. Landis of Quarryville, Mary Ann Evanish of North Braddock, Rita Neff of Pittsburgh, Dale Rae Kirmeyer of West Mifflin, and Florence Higgins of Little Valley, N.Y., all took nice deer within the last couple of years.

Here's a letter with a very concerned tone to it, but the lady does not wish to be identified for obvious reasons. Their year-old Lab ate a bar of soap, and she writes: "... so far my husband doesn't know. Will the soap hurt the dog?"

In my opinion, a year-old Lab will chomp anything that looks even remotely like food. This is but another reason I prefer to keep a hunting dog in its own kennel, not in the house.

As of this date I am assuming the dog hasn't turned up its paws, otherwise I feel your husband would have gotten the idea something was wrong.

Dogs gulp, rip and tear food more than chewing it (as we would identify the process of chewing) so please don't misinterpret this statement! If your dog had started to *chew* the soap, chances are it would have stopped because of the unnatural taste.

Are you sure the dog didn't upchuck the soap somewhere? Was it a whole bar or just a sliver?

Some *ingredients* of some bar soaps, such as formaldehyde, could possibly prove troublesome, and on this point I have written to Robert Little, DVM, Little's Veterinary Hospital in Williamsport, for an answer. Hopefully, he is still talking to me after our last go-round about Labs and I will get back to you next month, okay?

That's it for now. Thanks a bunch and keep in touch!

Save money ... if it's sunny hang out the laundry and let Mother Nature dry the clothes ... for free!

Hats Not Just For Style

By Les Rountree



THERE'S NO DOUBT THAT THE most famous hat in the outdoor writing field belongs to Elmer Keith, of Salmon, Idaho, shown here during shooting session with Ithaca's 10-ga. Magnum autoloader.

F AITHFUL readers have long known that I have several admitted weaknesses. I enjoy cooking wild game and fish both indoors and out. I am slightly hung up on footgear and absolutely wacky over flashlights. Quality cutlery? A handsome blade—even if never used for anything more serious than whittling a piece of soft pine—will hold my attention for hours. Down sleeping bags and English fly reels are also guaranteed to light up my eyes. Fine double barreled shotguns capture my fancy and would capture even more of it if my bankroll could stand it. And little by little, I'm discovering that there's another category of outdoor apparel taking up more and more room in my closet. It's hats.

For years I used the excuse that I needed a lot of different hats for picture purposes. Since outdoor writers take a

lot of pictures, this reasoning made sense to me. Lately I've reached the point where the hat collection deserves more explanation; you see, I've got too many of them. I'm not going to tell you how many because it would be embarrassing. Let's just say that I wouldn't have a difficult time wearing a different one each day of the month.

In sections of the United States, certain hat styles have become the common denominator of the region. The broad-brimmed cowboy hat is standard headgear west of the Mississippi, but how the hat is rolled or dented in at the top will identify the wearer as being from a certain region. For instance, the low crowned roll is seen along the Texas/Louisiana border country. The high-domed Tom Mix style is popular in Idaho and Montana, while the super-wide brim with a fancy beadwork band

is the thing to wear in the southwest states of New Mexico and Arizona. The western-affected eastern "hombre" may borrow something from all of them.

Roll up stocking caps with eye, nose and mouth holes are eastern ski area innovations. Rabbit hunters of some years ago in western Pennsylvania always looked the same at a distance, because they all seemed to own red leather bill caps with buttons on top. Businessmen in downtown Chicago all wear black Russian-style fur caps in winter. I mean they *all* do. It's like a part of the uniform.

In today's style-conscious world, hats are sometimes selected for appearance rather than comfort or utility. A lot of silly novelty hats come under this category, but in truth most lasting hat styles were designed with head and face protection in mind. They can be functional and handsome at the same time.

During cold weather, nothing will help keep a person warmer than a comfortable heat-retaining headpiece. There is conclusive proof that more heat escapes from the top of the head than from any other part of the body. There are more blood vessels in the head and there's practically no fat layer up there. As proof of this, the next time you are exerting yourself in the winter time, notice how quickly the top of your head becomes warm. Take off that hat and you'll have an immediate cooling effect. Conversely, in the summer time, protecting head and face with adequate headgear will keep you cooler.

Selecting the right headgear for outdoor activity is not a silly matter. The human body is put together in such a way that it requires suitable protection for hands, feet and head if the rest of the apparatus is going to be comfortable. Cold hands, feet or dome will chill everything in short order. And, the converse is true in the summer. Too much exposure to the sun's rays will cause sunburn, immediately painful, and continued overexposure is thought to cause skin cancer. There's no reason to take a chance on that.

On a recent trip to Florida I spent an

hour discussing this sun business with bonefish guide Frank Garisto. He makes his living poling tourist fishermen about the shallow water of Biscayne Bay. The best fishing takes place during the high sun hours (when the fish can be spotted), so Frank soaks up a lot of sun.

Not too many years ago, it was the mark of the Florida guiding profession to be tanned so darkly that the facial skin took on the texture of a walnut log. Those days are gone, Frank told me. With increasing cases of skin cancer occurring among the guides, they now douse themselves with pre-sun lotions, wear long-billed caps and sunglasses, and advise all of their clients to do the same. Now I'm not saying that a mild tan is harmful during summer, but prolonged year-round sun exposure can be.

But back to the hats. Style can't be totally separated from function. We're all too vain to wear something that doesn't look reasonably good or feel comfortable. If you feel silly in a certain hat, don't wear it; if it doesn't fit well or blows off when a mosquito hiccups, it won't do either. Let's look at the possibilities.

The broad-brimmed western hat is certainly not going to appeal to everyone, but it has a lot going for it. It protects the face from sun, rain and snow—if you don't mind being called "Tex" in East Stroudsburg. No one can wear a 10-gallon hat with the class that veteran gun writer Elmer Keith can, but it's something to consider. Elmer's high-crowned trademark serves him not only as headgear but has at odd times, according to his accounts, been used to give his horse a drink, as a wash basin, gun rest for a long shot, berry gathering bucket and pillow. Good reading to be sure, but I don't doubt for one minute that it's true.





FROM LEFT, above, "Russian bear" hat, Scottish deerstalker, and soft crusher style that's popular with backpackers.



SOME of Rountree's collection, above. Below, orange-and-red hunting cap with bill.

STOCKING CAP, below, and popular Western style, above. Both have many fans.



Any hat can blow off in a strong wind, especially the cowboy jobs, but a neck strap of rawhide will prevent it from being lost. Surprisingly, a western hat that fits the contour of one's head will stay in place quite securely. Remember all those cowboy fights in the movies? They seldom lost their hats (of course, I always suspected that they were glued on).

As a sun shade, the cowboy hat is unbeatable. For hiking, hunting, fishing, working the garden or whatever, a brim of four inches will shade the entire head and make sunny day activities less tiring. For hot weather use, the western configuration is available in all sorts of straw materials, some light as a feather.

The Long-Billed Cap

The long-billed baseball cap is not a bad choice for most outdoor activities if the bill is long enough and the underside of the bill is green or blue. I know that sounds like nitpicking, but it really isn't. The light tan and cream colored caps that are so popular in the summertime are usually the same color underneath as they are on top. And if you are near water, light sand or over concrete, the glare bouncing from the underside of the cap into your eyes can be almost as unpleasant as direct sunlight itself. The light gathering properties of green and blue make for less reflection and fewer sun-related headaches.

The popular salt water fisherman hats that feature a roll up back brim that can be lowered to shield the back of the neck are good. They're especially valuable when a full day is going to be spent on salt water, but the ordinary day hiker or camper will be comfortable in one of these hats too.

If you wear sunglasses (some people don't like them), one of the short-brimmed pork pie hats is okay for casual summer camping and hiking. The soft styles can be washed easily and stuffed into suitcase or backpack and won't look the worse for the experience. Most mail-order houses and quality sporting goods stores sell these. The popular Maine style

"crusher" felt hat is another good one for all weather use. It's not waterproof but will shed an amazing amount of rain before soaking through.

For the hunter, the chief sort of headgear to consider is the Jones type. This hat has a full brim but is rolled up all around, except in front. It resembles a sort of modified Robin Hood cap. Many deer hunters prefer the same style, except in a fluorescent orange-camouflage pattern. Some of these hats are reversible, and that makes two hats in one.

If it isn't raining, the most practical hat for winter use is the old-fashioned wool stocking cap. Buy one big enough to allow several rolls, in case you want to leave your ears exposed when walking or listening. When it turns colder or you stop to rest, the stocking cap can then be rolled down to cover the back of the neck and ears. These are available commercially, or if someone in your family knits, talk them into making one for you.

Maybe I'm becoming more daft as the years go by, but my newest hat is one of the British "deer stalker" caps. You know, the "Sherlock Holmes hat," the one with a bill on both ends. It may look a little out of place on this side of the ocean, but I think it's going to prove to be a very practical chapeau. It protects the back of the neck, shields the eyes from the sun, and in wool hounds-tooth material is warm enough for all but the coldest days.

If you like a full-brimmed hat, the Irish jobs woven from natural wool are the warmest I've ever seen. They have little shape wet or dry, but they sure do wear well. I expect mine to last a lifetime. The interesting thing about these hats is that no two of them are ever alike. In case you decide to wear one hunting, be sure to dress it up with a blaze orange hat band.

The wearing of hats seems to come and go in cycles. I think it depends on which generation you grew up with. The practical aspects of a hat are seldom considered by teenagers. If hats are in (and there are signs they might be coming back), then chances are we'll wear them.

Travel on top for

Backwater Battlers

By Keith C. Schuyler

Photos from the author



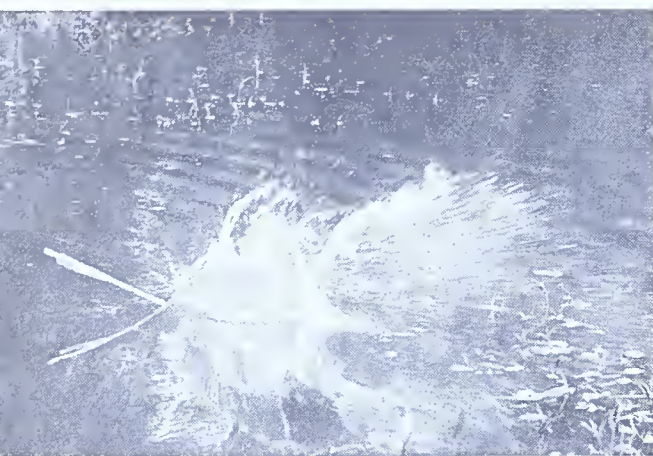
DISTORTION of the water at the angle from which we viewed the carp disguised its real size. My arrow appeared to go well. But, in the usual commotion created by a big carp leaving the shallows, it was not immediately evident whether or not I'd scored a hit. The loosely fitted wooden shaft immediately floated to the surface.

"You missed him," Fred Paden said. He had paddled me carefully along the high reeds bordering the small lake, and it appeared for a moment that his effort had added up to one miss for me. But I could see the monofilament

speeding out of the fishing reel attached to my bow.

"He's on!"

At the rate the ten-pound monofilament was going out under the canoe, there was no doubt that the fishhead was in the carp. Fred eased around so that the monofilament wouldn't get caught or be cut by the aluminum craft, and we started to follow the fish. At about the same moment, a sudden shower with heavy wind swept in upon us. From a tentative feel of the monofilament, it was certain that I was into a good one. And as the wind blew us down the lake despite Fred's back-



SHALLOW backwaters are favorite haunts of feeding carp. Note visual distortion of that part of arrow underwater. Result of shot: one carp!

paddling, it seemed certain that the light monofilament would break against the strain. I had to give line repeatedly from the spin-cast reel affixed to the bow.

The shower lasted long enough to soak us thoroughly and shove us well down the shoreline before Fred managed to maintain our position by furious paddling. Only then did I put enough pressure on the fish to bring its broad tail to the surface. The arrow had hit fairly far back, which gave the fish more leverage than a hit closer to the head would have. Fortunately, the shower and the wind both let up and after about 20 minutes Fred slid the net under the carp. The old garbage collector weighed in at 15 pounds, 14 ounces.

Although this fish was considerably larger than average, the incident is mentioned here more to illustrate the fun that can be had bowfishing for carp. Carp are usually found in backwaters of big streams or along the shorelines of lakes. In the hunt described here, the storm complicated matters a bit, but a light craft like a canoe always adds to the fun and opportunities in hunting carp.

It is true that you can often approach big carp on their May spawning beds without too much difficulty. But at other times, the best hope is a light boat or canoe. Combine this with night hunting, and you're all set for some real excitement.

Aside from the ease in transporting a canoe with a car-top carrier or light trailer is the advantage that such a craft gives you in seeking out the shallows. At times, carp move back into areas too difficult or too hazardous to reach with a heavier boat. Outboards are out, except for getting to and from the better spots, so a canoe provides an ideal craft for carp hunting.

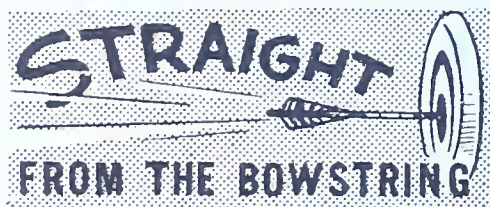
There's plenty of fun to be had just hunting from shore, as has been described here in the past. But if you get fastened to a larger fish, it's frequently a big advantage to have over-the-water transportation. The important thing is to consider the hazards of upsetting or being caught on big water in a sudden storm. And it's the law that an approved safety floating device must be carried for each passenger in any craft.

Chance of Capsizing

When floating with the current, there's an ever-present possibility of ramming a rock hidden just beneath the surface, or a log that is water soaked and also hidden from view. Since I go nowhere without at least one camera, the chance of capsizing takes on new meaning for me. Fortunately, I have always managed to stay afloat. However, in the event of a mishap, it is well to have a safety device handy.

Although less stable than a rowboat, a canoe is the most versatile craft for hunting carp. Not only can it be easily paddled to follow big fish that take a lot of line, but a canoe is also light enough that many carp hunters let the fish pull them around without much fear of breaking the line.

One of the best individual records in carp shooting was established by Sam Burg, who lives in York. He does a lot of his hunting in Codorus Creek in the Mundis Mills area. His big year was 1973, when he took 506 carp. On a



number of occasions he has taken two with one arrow, and one memorable shot nailed three at once like a shish kebob. His best score for one day was 23 carp. He and Stewart Olewiler frequently hunt together, and the carp are not wasted as Sam uses them for fertilizer in his garden.

Some years ago *Archery World* magazine held a carp shooting contest, and it was no surprise when the top fish was reported by a Pennsylvanian. Gene Reilly took one from the Susquehanna that weighed 50 pounds, 2 ounces, to top all other contestants. Reilly, who lives at Wormleysburg across the river from Harrisburg, took his big one from a boat. In fact, the seven top winners in that particular contest all took their carp from over-the-water craft.

Reilly, who teamed up with George Funk, fastened a light to his bow for night hunting; the light was powered by an automobile battery.

In another contest conducted by the same magazine on a team basis, Tom Craig and Tom Gift, from Ladensburg, Pa., were the winners. Their biggest carp weighed 24 pounds, 4 ounces, but it was one of 701 taken for the contest by the team.

Although our major rivers are natural hot spots for carp hunting, there are plenty of ponds and lakes which grow some really big fish. But unless one really knows the water, the best chance is on the rivers where a float can cover long distances and increase opportunities for taking big carp.

A good example of this was a trip organized and conducted by Guy Ekler, Highspire, seven years ago on the Susquehanna below Harrisburg. Guy had an ingenious arrangement using a gooseneck lamp attached to a 12-volt wet cell. The light would be submerged and then turned on to illuminate a spot about six feet in diameter, depending upon the depth of the water. This set-up took some fast shooting, as the carp came into view only briefly as the boat drifted.

Except when they are on the spawning beds, usually in mid or early May, it's not always easy to pick up really large carp. It seems easiest to find the big ones by night. All carp are



CARP should not be wasted, particularly in this day of renewed interest in home gardens; the fish make excellent fertilizer and have been used as such for ages.

extremely wary, and the biggest ones get that way by being a bit warier than the rest.

It is difficult to judge the weight of a carp over two feet long. Generally the females are heaviest. Carp are somewhat similar to southern bass, which start to belly out after a certain length, and girth, rather than length, is a better clue to total weight of a larger fish.

Carp should not be wasted, particularly in this day of renewed interest in home gardens in the battle against inflation. Fish make excellent fertilizer. There was a time before the introduction of power dams on our rivers that shad were so plentiful that both Indians and settlers used them as fertilizer on their fields. But if it's not practical to take one home, the belly of a carp should be opened with a knife so that the carcass can be sunk in deep water.

Although almost anyone can take carp with a little practice, those who score best are those who are properly equipped. And a water craft is essential if you expect to score consistently on the bigger fish.

Shooting tackle does not require much sophistication, and almost any combination of bows and arrows will do. Nevertheless, bigger fish are



SOMETIMES it's better to park the craft and wade into stream or river to find carp. Hip-boots are a must, along with care and a sharp eye for rocks, holes, etc.

frequently found at the greater depths, as they are more reluctant to show themselves in the shallows even at night. The solid fiberglass fish arrows which are fine for bow hunting are more apt to penetrate deeper water and still have sufficient weight to go in over the barb in a carp. These fish are not tough, and even a light bow will sink a fishhead into a carp if it isn't necessary to go through too much water to do it. But when going after the bigger fish, a bow heavy enough to propel a heavy arrow is best.

One consideration when hunting over water: the sides of a boat or canoe generally make it necessary to use a fairly short bow. Otherwise you run the

risk of breaking a bow or ruining a good shot if your bow limb doesn't clear the side of the craft. Even with a short bow it's necessary to make sure you have clearance.

A large net is a must. Trying to land a big carp over the side of a canoe invites a minor disaster. Keep in mind that, practically speaking, a fish weighs much less when suspended in water than when you lift it out of its element. Further, if a 15-pound carp starts thrashing around close to or in a canoe, it presents a situation that may be fraught with more real danger than fun.

A canoe is quieter than the quietest boat, but it does require that one person be on the paddle at all times. This means that some prior agreement must be made for when and how to shift seats to take turns shooting. The only safe way is to move into shallow water for the exchange.

Carp are slimy. Consequently, cloths are needed to clean hands after handling one of these fish. Ideally, a large sponge should be carried in the canoe or boat to mop up after landing a fish. Certainly some means should be provided to avoid slippery bow handles, canoe paddles, camera cases, etc.

One thing is certain. No matter how, when, or where you go for carp with a bow and arrow, you are certain to have some interesting experiences. And since the old carp has few, if any, defenders, you can shoot away with a clear conscience. There is no size limit, and the daily limit is 50 fish. Only a few cautions—be careful when you are riding on the water or wading through it. And be sure to have a current fishing license; for a change of pace, you might get a shot at an eel, a gar, or a sucker. Remember to stay off approved trout waters between March 14 and the opening day of trout season.

For a Gallon—Forget It

In order to make a tablespoon of honey, a bee must visit about 2000 flowers.

Lots of Long Ones

More than 200 feathers make up the fan of the peacock.

224-Cal. Varmint Cartridges

By Don Lewis

Photos by Helen Lewis

THE RAIN belted hard on the narrow field lane, and I watched with fascination the tumbling waters in each ditch. I shielded the M3200 12x Redfield scope on my rifle the best I could, while wondering what drove a person to match wits with a simple woodchuck in the middle of a summer storm. A thump on the shoulder from my watersoaked partner, Tom Leete, broke my thoughts as he held up one and then three fingers. Knowing he meant one chuck at 300 yards made the elements a little easier to cope with, and I glassed the opposite hillside for the target Tom had seen. I located it as the rain slackened a bit, and dug into a solid rest over a pile of logs and fenceposts. This would be my first shot at game from the new single shot heavy barrel Savage 112V 220 Swift.

I had the new 220 zeroed in just over 2 inches high at 100 yards with 40 grains of 4064, Remington 9½ primer and a 52-gr. Speer HP Silver Match bullet. This particular load had proven itself in the accuracy column from the benchrest. Several groups went below the 7/8" mark, which I thought was excellent, especially with velocity right on the 4000 fps level. The testing I had done convinced me any miss would be my fault.

The chuck seemed oblivious to the steady rain, and while it roamed farther



FORMER GAME NEWS editor Jim Bashline lines up on a chuck with a Ruger No. 1 in 22-250 cal. Homemade rest makes for steadier stance and more accurate shot.

from the den, I did a little mental arithmetic on where the bullet would be at about 350 yards. I decided on an upright shot with a hold high on the chest; all the chuck had to do was stand to prove if my calculations were correct. This took longer than I expected. While the game of wait and watch went on, I figured out the wary chuck movements, and when it bolted upright looking my way, I planted the reticle on the neck line and touched the shot off.

Through the years, I've taken a lot of chucks, but this had to be one of the best shots I ever made. Not only did I hear the thud of the bullet but also watched a spray of water generated by the bullet's impact. I would be stretching things a bit if I said the bullet



HELEN LEWIS bagged red fox with Weatherby 224 Magnum, hit her target at 140 yards while it was running. Scope is a 6x, also a Weatherby.

landed right where I thought it would. It was a clean kill, but adding another inch to my hold would have put the bullet in the middle of the chest.

As most readers know, I have been an avid fan of the 220 Swift cartridge for many years, keeping the faith long after many other gun writers wrote their requiems for the famous cartridge. Now that it's back in both the Ruger Model 77V and the Savage 112V, I find a lot of satisfaction in knowing I stuck with a good cartridge long after it had been discontinued. Wild stories still circulate about the antics of the Swift, but no one can deny it is a very fine varmint cartridge. During extensive testing I did with the Ruger 77V (see *Gun Digest*, 29th ed., 1975), I found accuracy was at its best around the 3800 fps mark. I had been saying that all along, but myths die hard, and some still think the Swift always has to be pushed to over 4000 fps.

I've always claimed the .224" bullet has limitations as far as distance is concerned, and I believe in staying under 400 yards. The 350-yard shot I made with the Savage 112V was stretching the 52-gr. bullet's accuracy range. I've gone beyond 400 yards many times over the years, but under most hunting conditions, the .224" bullet doesn't offer much at extreme ranges. It's true the Swift can muster velocities above 4300 fps, but take it from me and stay away from those screamers. I've fired groups in that velocity range, and most of them wouldn't stay inside a 3-inch circle at 200 yards.

A good bit of turmoil surrounds the varmint cartridges of today, largely because there are so many of them. There's talk of blistering velocities of the 224s, the combination big game-varmint potential of the 6mm's, and the super ballistics of the 25-06. I have no argument with much of this, but I am convinced it's more confusing than beneficial. Getting right down to basics, all that is needed is a type of cartridge that will fill your need. This could be the 22 Hornet at 125 yards or a Remington 7mm Magnum for cross country shooting.

Seriously, a more sensible philosophy must be used. The hunter should evaluate his hunting needs and go from there. To think only in terms of long distance or power is approaching the subject improperly. The little Hornet or 218 Bee shouldn't be tossed aside just because there are many more powerful cartridges. When Ruger came out with a single shot 22 Hornet in their Model 3 Carbine, I smiled away a dozen years of wrinkles. More icing was added to my cake when Savage introduced the Hornet in their top grade Model 1432 Savage/Anschutz and then later chambered the 340 Model for it. Interarms has the classic KKJ Walther



chambered for the little cartridge, and the groups I got from my set trigger test model upped my blood pressure plenty.

The 22 Hornet is not dead, and by gollies, it still has a place. My only complaint against it is trying to reload the tiny case. It's the bane of my existence, and I constantly threaten to never reload another Hornet. I never saw much difference between the Hornet and Bee ballistically, but the bottleneck Bee case is forty times easier to reload. I am not predicting any great comeback for the 22 Hornet, but it's a must for the hunter who is faced with congested areas where high frequency sound is a problem. It's not the most accurate cartridge, but it has plenty to offer at ranges it was designed to handle.

Paradox

It's somewhat of a paradox to know several fine varmint cartridges were available for years but only a few shooters knew about them. Naturally, I'm talking about the 22-250 and 25-06. In a way, I blame the gun manufacturers for allowing that situation to exist. I blame all of them for not being aware of what was needed instead of just trying to sell what was already manufactured. When Winchester discontinued the Swift and replaced it with the 225 Winchester, shouts of joy went up that the cantankerous Swift had finally met its just fate. The demise of the old Swift was a real blow, but at least there was a replacement. Much to my chagrin, some claimed the 225 was superior.

The shouts that heralded the entry of the new 225 soon died. Not so much because the 225 was a complete failure, but more because Jerry Gebby's 22-250 Varminter was getting factory attention. The old woodchuck and benchrest cartridge was simply a 250-3000 Savage necked down, but it performed near miracles in the competition realm. A lot of young varmint hunters didn't know this when Remington introduced the 22-250 in their Model 700, but that type of word soon gets around. Like the 222, the 22-250 was a sure-fire success. The 225 fell by the wayside, and chamberings in the Model 70



RUGER NO. 3 in 22 Hornet cal. is a good chuck outfit up to 150 yards; rifle wears a 6x Unertl target scope with fine crosshairs.

Winchester now include the 22-250.

I'm always a hard loser when I know from personal experience that something has plenty to offer. That's why I'm hanging on to a Model 70 225 heavy barrel that beats inch groups with 30.5 gr. of 4064 behind a 52-gr. match bullet. The varmint shooter fortunate enough to have either a Model 70 or a Savage 340V in the 225 should consider himself lucky. This fine rimmed (some refer to it as semi-rimmed since it headspaces on the shoulder and not the rim) cartridge has a well balanced velocity level that assures long barrel life.

When I graduated from the little Hornet to the 222, it was difficult to grasp the vast difference between the two. I spent three summers traveling across Pennsylvania's northern tier of counties with my M722 Remington 222 mated with an 8x Unertl varmint scope. Helen and I made a lot of landowners happy. The 722 easily cut inch and less groups at 100 yards, with 23 gr. of 4895 and the 50-gr. Sierra bullet, making it a



VARMINT HUNTER should evaluate his needs and then choose the caliber best suited to his type of hunting. The 224's are often an excellent choice.

terrific field load. For awhile, our shooting ranged to over 300 yards, but it soon became apparent the 222 cartridge was at its best well under that. When wind was no problem, precise bullet placement was possible to about 250 yards, which is good shooting.

The advent of the 222 Remington was a shot of adrenalin for the weary Hornet and Bee users who had to stay well under 200 yards. Adding another 75 yards may seem trivial, but to the hunter who had spent years battling weeds, briars and wet clover to crawl within the accurate range of the two tiny outfits, it was a breath of fresh air. I recall one hillside where I slugged it out a number of times with several dens of chuck just under 300 yards away, but lost every round with the Hornet. The first meeting with the 222 wasn't a total success, but it did show the new cartridge had sufficient power and speed to add a new varmint hunting territory to my map. When I learned more about the trajectory, the pendulum swung my way, and both dens closed down for good.

My evaluation of the Remington 222 cartridge has to be all praise. It was a new design and not a modification of another case, and this is one of its most

winning features. Couple this with superb accuracy and a case that's easy to reload, and it adds up to guaranteed success. I may be wearing one of my expressions thin when reiterating that the 222 is one of the best balanced cartridges ever to hit the varmint hunting scene, but it's true. This is the ideal cartridge for the hunter who is not interested in sheer distance but wants a good varmint getter that can also be loaded down nicely for turkey hunting.

A few years after the inception of the Remington 222, two similar cartridges, the 222 Remington Magnum and the 223 Remington, appeared. Again, great expectations were announced. It was quite some time before I came face to face with the 223, but my early acquaintance with the 222 Magnum didn't blow a gasket in my adrenalin pump. True, the larger Magnum upped the velocity a little with the heavier bullets, but its only claim to fame was that its ballistics fell smack between the regular 222 and the wildcat 22-250. Since the 22-250 lacked a factory chambering at that time, many varmint shooters welcomed the 222 Magnum with open arms. It soon died, as it was originally slanted toward military use and the 223 or 5.56mm got the go

ahead in that respect. The AR-15 was chambered for the 223 and later the M16 put the 223 on the books for good. The ready supply of 223 military brass also helped obliterate the 222 Magnum.

Most of my association with the 223 has been in Remington's Model 788. I haven't done extensive testing, but GAME NEWS editor Bob Bell and I fired a number of rounds through the chronograph and on the 100-yard range with impressive results. The 788 Remington lacks an adjustable trigger, which detracts somewhat from getting consistent groups, but, on the average, we stayed well within the 1¼" category. Thorough field testing is part of this summer's plan, but as I see the 223 now, its greatest asset is being able to handle the 55-gr. and heavier bullets more efficiently than the 222. That's not saying too much for a cartridge that's so high on the military's list, but hard facts show the 223 doesn't have any more to offer than did the 222 Magnum.

If most of my varmint shooting fell in the 200-300 yard bracket, I would select the 223 instead of the 222. I base my thinking on what I said about the heavier bullets. My tests this summer will include a lot of shooting with the 63- and 70-gr. bullets. If results are good at these longer ranges, the 223 will be another military cartridge to be accepted by this civilian hunter.

No gun writer could ever close an article on the 224 cartridges without paying proper tribute to the 22-250. Its brilliant past is well known to the competitive benchrest shooter and the older varmint shooter who rolled his own ammo. During the years to come, the whole varmint hunting clan will gain even more respect for this super cartridge.

I have had a long association with the

22-250. I've fired it in many custom rifles and in every factory model that chambers it, including Browning's beautiful Model 78. Last summer I used the Model 78 single shot octagon barrel, and felt I was carrying the old Model 1885 High Wall design. The Model 78 is a falling block action with an automatic ejector and exposed hammer. The 78 comes with specially designed scope mounts suitable for any 1" hunting scope. There's no question it's a rifle that will satisfy the taste of the most demanding hunter. Classic in design and handsome in appearance, the Model 78 Browning ranks with the best of them.

As much as I cherish the 220 Swift, I am totally sold on the 22-250. I think it has everything any varmint shooter could ask for. I'll recall for many years some of the shots I've made with the Ruger No. 1 single shot heavy barrel, the Remington 700 heavy barrel, plus exciting shots I made with the Sako, Mossberg, Winchester, and even a custom Dumoulin. I suppose I've shot more models of rifles in the 22-250 chambering than any other cartridge. Whether it's in the field or just practicing at the benchrest, the 22-250 turns in a tremendous performance with a variety of load combinations. It's an amazingly versatile cartridge.

There is no shortage anymore of varmint cartridges in 224 caliber. The best part about it is, there's a cartridge for every need and situation. With a full summer ahead, now's the time to select the varmint outfit. There are many makes, models and chamberings to choose from, and some discretion must be used. Don't go for just power or speed. Evaluate your needs and settle for the cartridge that comes closest to fulfilling them. Chances are, one of the 224 cartridges I mentioned will be more than adequate.

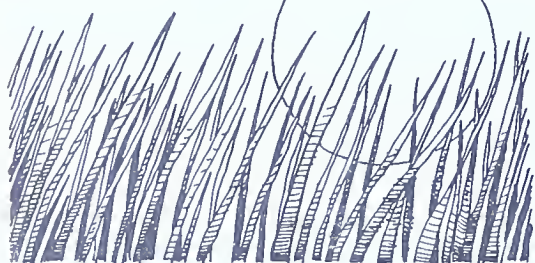
Fast Fellows

Racing pigeons have averaged 93-95 miles per hour over an 80-mile course.

In the wind

chuck fergus

information writer



Aerial counts show record numbers of eagles wintered in southern Colorado's San Luis Valley last winter. Totals from the intensive study indicated between 200 and 250 bald eagles and approximately 280 golden eagles were in the 2500-square-mile area. The increase is attributed to a combination of factors—the ban on predator poisons on federal lands, a decline in illegal shooting, and the prohibition of DDT.

For the first time since WWII and the Victory Garden era, more than half of all U.S. households will have some kind of vegetable garden this year, according to a recent Gallup poll. In 1974, 49 percent of all U.S. households had vegetable gardens, a 10 percent increase over 1971.

Environmental expenditures amount to less than two percent of the nation's Gross National Product. That means pollution abatement in 1974 cost between \$34 and \$40 per person in the U.S. In terms of health effects alone, air pollution costs the public an estimated \$12 billion each year in lost work, health care and premature deaths. According to the Bureau of Labor Statistics, for every billion dollars of federal expense for pollution control, 66,900 jobs are created.

The population of Kirtland's warbler has declined in recent years, as shown by careful censusing in breeding season. In 1961, the number of singing males on the nesting ground was 502; in 1971 it had dropped to 201; in 1974, 167; and in 1975, 179. Biologists may begin to examine the species' wintering grounds in the Bahamas, as well as continuing research in the Michigan forests where this warbler breeds.

Last fall, the Equity Oil Co. was ordered to pay \$500 for each of 14 waterfowl which drowned in an uncovered oil pit in northwestern Utah. Federal Judge Willis Ritter, Salt Lake City, levied the fine for unlawfully killing migratory game birds.

The National Wildlife Federation has acquired a 150-acre refuge for the American bald eagle. The refuge, to be known as the Ferry Bluff Eagle Sanctuary, is located in a heavily wooded area along the Wisconsin River near Sauk City, Wis. It is a roosting site for eagles concentrating along the Mississippi River Valley flyway, the winter fishing ground for about one-third of all the bald eagles remaining in the lower 48 states.

Land development and overuse are threatening the Appalachian Trail, a 2000-mile footpath running through 14 states from Maine to Georgia. Despite the AT's designation as a National Scenic Trail in 1968, about 40 percent of it is still located on private lands. Recent increases in the number of hikers has spelled deterioration of the trail's environment, plus vandalism of camping facilities and misuse of private lands. Experts recommend establishing a "greenway," a corridor of varying widths of protected land which would surround the trail and insulate hikers.

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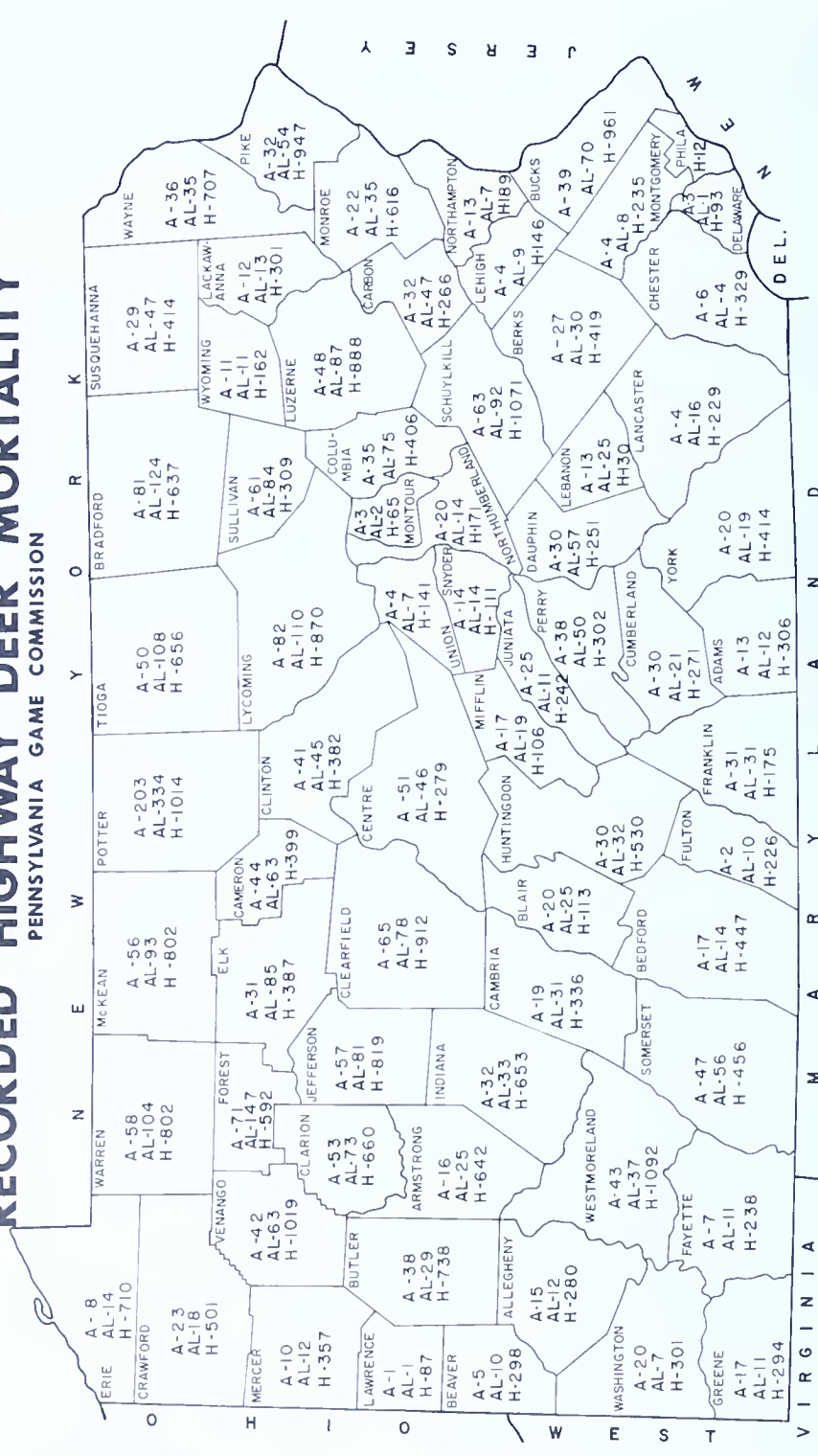
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RECORDED HIGHWAY DEER MORTALITY & PENNSYLVANIA GAME COMMISSION



ANTLERED DEER (SYMBOL - A)		ANTLERLESS DEER (SYMBOL - AL)	
ARCHERY SEASON.....	2,094	2,949
COUNTY UNKNOWN.....	2	16
TOTAL	2,096	2,965
Grand total ARCHERY Harvest.....		5,061	
Grand total HIGHWAY Mortality.....		29,914	

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PENNSYLVANIA **GAME NEWS**

JUNE, 1976

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**PENNSYLVANIA
GAME NEWS**

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Hawks are something different. The unexpected sight of one always brings a thrill, no matter whether it is aloofly motionless on a dead snag or in slashing attack, as with this red-tail. There's an abrupt pause, a narrowing of focus, complete concentration as the observer tries to see, absorb, understand everything possible about the bird. The wildness does it. We know instinctively that here is a predator, a creature that kills to live, directly and honestly as man once did. The knowledge brings a ripple of dread, wonder, veneration. For a moment we realize we too are still an integral part of nature and that the fundamentals of life are inescapable.

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Making a Good Day Better

MAKING A GOOD DAY BETTER is the theme for National Hunting and Fishing Day, 1976, which will be celebrated on Saturday, September 25, this year. All sportsmen's clubs and conservation groups are urged to pull out all stops in making this NHF Day the best ever.

Since its debut in 1972, NHF Day has provided the nation's sportsmen with an excellent platform from which to spread the word about the leading role played by outdoorsmen in the conservation of all kinds of natural resources—and spread the word they have. Since that first NHF Day almost four years ago, over 50 million Americans have attended NHF Day activities in all 50 states. Somehow, the organizing clubs have always managed to make each year's NHF Day better than the year before, and now in 1976, in honor of our nation's Bicentennial, they're being asked to make September 25 the best NHF Day ever.

There's no reason this cannot be done. Those clubs which have organized NHF Days in the past have gained much valuable experience which can be put to use in making this year's programs bigger and better. Thousands of clubs now have four years' experience in organizing NHF Day activities. They know how to obtain effective newspaper and radio publicity, how to attract crowds, how to organize a program that will interest all segments of the population—young and old, male and female, outdoorsmen and indoorsmen alike.

"There are many ways in which clubs can expand and improve their activities," according to Bob Delfay, coordinator for National Hunting and Fishing Day. "For example, the U.S. Jaycees have recently selected NHF Day as an official activity and clubs should contact the Jaycee chapter in their area to invite participation in any local observance."

Another great way to improve an NHF Day observance is to make it longer. This can be done by visiting local schools with films, slide shows, and other demonstrations during the week preceding NHF Day. You should also invite these school groups, including their teachers, to your program on September 25.

Publicity is a key ingredient to a successful NHF Day, and this year NHF Day headquarters will provide clubs and newspapers with materials for a special hunting and fishing newspaper supplement to be run in connection with your program. This will help bring word on the sportsman's role in conservation to thousands in your community who might not visit your actual program.

Additional information on how to make a good day better is available from NHF Day, 1075 Post Road, Riverside, CT 06878. Take advantage of it.—*Bob Bell*



THE YEAR: 1763. From a point a few miles west of the Delaware River to the wilderness banks of the Monongahela and beyond, the Colonial scene along the roughly-outlined Pennsylvania-Maryland border might have appeared free from strife to the casual observer. By reason of chartered grants from the English Crown, the Penns were the proprietors of Pennsylvania; and the Calverts held undisputed

be dealt with; irate borderline settlers would buffet the survey party with both threats and action; all sorts of foul weather would assail the whole endeavor. Did regional surveyors exist who were up to handling the gigantic undertaking? Commissioners for the disagreeing factions didn't think so.

But at that critical point when finding capable talent for the challenging survey

The Most Memorable of U.S. Boundaries

The MASON-DIXON LINE

By Wilbert Nathan Savage

title to Maryland. No one questioned these rights of land ownership. (Date of the Calvert charter: 1632; the Penn grant: 1681.)

But a close assessment of frontier areas hugging the poorly traced line between Pennsylvania and Maryland would have revealed a situation far from benign. All was *not* the first-impression peace and quiet—not by the stretch of a surveyor's chain! Indeed, sporadic bickering and angry outbursts had been occurring along the border for over 80 years. Sometimes the contest smoldered; sometimes hostile activity fell little short of open border warfare. The responsibilities of land ownership on a far-reaching scale had, by reason of the uncertain boundary issue, led to a wearisome kind of gentleman's feud. Now, with the 18th century more than half spent, a dramatic showdown was beginning to take shape. Just when old grudges and their attendant tensions had reached a peak, however, prudence somehow managed to get the upper hand on both sides. It was mutually decided that settlement of the thorny matter must now rely on the professional authority of men able to conduct a long and costly survey.

A search immediately began for engineering skills capable of establishing a true dividing line across the wild mountain country "westward from the Chesapeake, separating the Province of Maryland from the Province of Pennsylvania." Streams of many moods and widths would have to be crossed; skirmishes with the Indians were likely; delicate surveying instruments would have to be protected under the most primitive transportation circumstances; food and health problems would have to

seemed hopeless, two highly recommended English experts in civil engineering made known their availability for the job. Welcomed by agents of the aristocratic family of the Penns and the noble family of the Calverts, Lords Baltimore, they arrived from England in Philadelphia on November 15, 1763. With a minimum of formalities out of the way, the young engineers promptly met with the commissioners of both Maryland and Pennsylvania and were duly sworn in as impartial representatives of the Calverts and the Penns. Charles Mason and Jeremiah Dixon were ready to go to work.

John Bird, a noted English maker of instruments used in surveying, had earlier assembled a precision-crafted six-foot zenith sector for special use by Mason and Dixon. The five principal instruments scheduled for use in the survey were the zenith sector—which measured the angle between the zenith and a selected star as it crossed the Meridian—two transits, and two reflecting telescopes, "both capable of looking accurately at posts in a line 12 miles distant." At least one of the instruments had been made to the specific order of Proprietor Thomas Penn, son of William Penn.

Before Christmas, the skilled surveyors had many of their preliminary activities underway. They early started the habit of putting in long, tedious hours, using in their complex process such significantly suitable stars as Auriga, Cygni, Persei, Lyrae, Capella, Castor and Andromeda. (A number of important observations were made from atop a crude tower erected in South Philadelphia.)

Despite the fact that cloudy skies de-

layed progress during the first few days of 1764, on January 7 Mason and Dixon established accurate latitudes (39° 56', 29.1" North) which would enable them to cross various townships on part of the course of a previous survey made in 1739 by Benjamin Eastburn. Now traveling on horseback much of the time, the surveyors methodically worked toward Chester County. On a bright and crisp January 8, they found the spot for which they had been searching—"a place having the same Parallel as the southernmost point of Philadelphia" (39° 56', 30.2').

Mason's "Journal"

Charles Mason's journal (parts of which are in the National Archives) records that the first "fix" was made on the house of Mr. John Harland, about 31 miles west of Philadelphia. By this time they had already crossed the townships of Darby, Springfield, Thornbury, Edgemont, Providence, West Town, and West Bradford. Time out for a two-day review of all accumulated data conclusively proved the point arrived at to be nothing less than an engineering bullseye. Indeed, every position and measurement thereafter determined was directly related to those initial findings!

The surveyors' caravan had now grown to three covered wagons. The telescope of the sector, for safety's sake, was carried on a special contrivance known as a "horse chair." It was carefully padded with feather-bed material and secured atop the most effective springs to be had in those days. There was also a tent to house the invaluable zenith sector—a sailcloth shelter made in Philadelphia at a then-outrageously high cost of nearly 10 pounds.

On the crystal clear night of January 14, every factor checked out by instrument and advanced mathematics satisfied the surveyors. The "big push" west had begun! The John Bird creation consistently produced a degree of accuracy that was practically flawless.

In a vegetable garden in back of the John Harland house, the surveyors established a still-existing spot known as the Star Gazer's Stone. No sooner had this key point been settled than it began to snow. But slowly, ever so slowly, progress was made. Soon after the last day of February, leap year, 1764, Mason and Dixon made a last-minute check to confirm the behavior of stars immediately applicable to their project.

Shortly thereafter the two surveyors set out with four additional axemen who efficiently cut the vista southward, then swung about to trace a westerly course. On

March 17 the surveying party was fascinated by a moon eclipse—and for a few hours the vitally important stars had to settle for second place in the onlookers' attention.

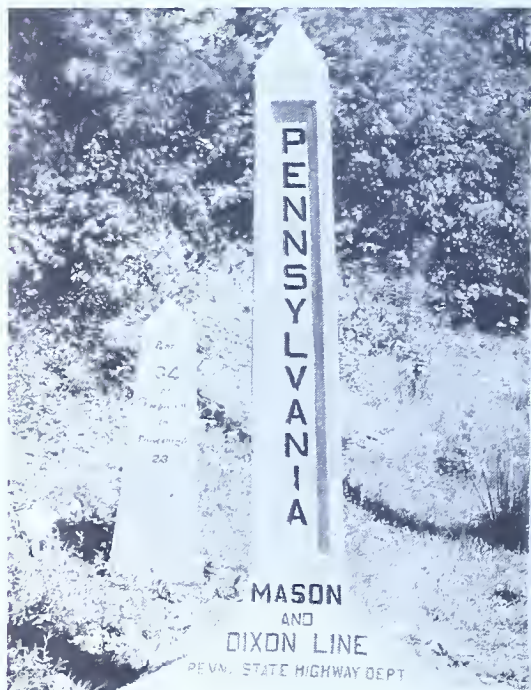
Within a few days the group twice crossed the winding Brandywine and headway was described as "brisk and in a mood of good cheer, although much work had to be done in the rain."

Despite bad weather and a slowing of the pace, the boundary makers made their way through scores of farmsteads. Old records reveal that on or near the westward-creeping boundary there were settlers named White, Lloyd, Cresap, Price, Rankin, Rinot, Hiltibrand, Lawson, Vant, Gillespie, Stophel, McClean, Brown, Twiford, and Bryan.

On April 22, 1764, the Penn-Calvert dignitaries checked the progress of the survey and found it satisfactory. The Governor of Maryland was also informed of the progress.

May 13, 1764. Mason and Dixon decided on this date to measure back on the surveyed line in order to prove by test the absolute accuracy of their work. This task required seven days' work. After a final

MASON-DIXON LINE marker, left, and more elaborate boundary marker, right, erected by Pennsylvania Highway Dept. These are near Markleysburg, not far from the western end of the Line.



study "from a Rivulet call'd Muddy Run, on a due south course," everything was determined to be of proper tabulation.

The high-altitude dogwood bloom had dropped, seed corn was in the ground, and grouse were drumming on favorite logs as May gave way to June. The survey crew now found it sensible to poke from time to time in thickets where spring-aroused rattlers might be lurking in their path of travel.

In surveying the tangent line for "the Post Mark'd West," Mason and Dixon used what was known as a Hadley's quadrant, plus their own skill in working out mathematically involved triangulations. They discovered that previous surveys were in error by $17\frac{1}{4}$ chains. (One early survey had been made by Nicholas Scull and William Parsons.) In sharp contrast, upon proving $10\frac{1}{2}$ miles of their tangent lines, Mason and Dixon found their engineering calculations superbly accurate: they were in error by a mere 26 inches! In making their extremely accurate survey—compared with one in error by 1,136 feet!—the young engineers had with painstaking care utilized not only individual stars, but a number of star groups as well—including Ursa Major and the tailend star in Ursa Minor.

The days and weeks sped by. Vast seas of creamy chestnut catkins decorated the hills and valley slopes, only to fall to earth and be replaced by millions of tiny green burrs. The surveyors, whose help now numbered still more men and wagons, sometimes paused briefly to watch the tending of precious frontier crops; or the quickened toil of a bridegroom trying to complete his log cabin in good weather. July ebbed in favor of August, and August gave way to September and the welcome coolness heralding summer's end. Soon, lamenting the rapid pace of time, the surveyors had to turn their calendar to November 1. Chill days now yielded but a single bright spot: Mason and Dixon were visibly pleased with the accuracy their work possessed.

On November 12 they wrote Governors Horatio Sharpe of Maryland and James Hamilton of Pennsylvania, detailing the progress to date. Those notables directed representatives to examine the partially completed boundary, and soon thereafter both provinces passed a resolution stating that, "What has been done relating to the Lines shall stand as finish'd."

With the arrival of winter, Mason and Dixon gave their help a temporary furlough and settled down for a period of board-and-room idleness at the home of a farmer "at the forks of Brandywine." Not until

March 1, 1765 did the boundary makers venture forth to resume the task of fulfilling their contract.

Occasional moments of dire peril grew out of the need to establish early border lines between states. One man, . . . "About ten miles from Lancaster, on ye river Susquehanna," firmly defended his house as being in Maryland. His name was Cresap, and he had 14 men stationed inside and about 55 outside. He had a lot of friends, and he meant business. But a sheriff and a large number of deputies set the house on fire and shot one man in order to change the mind of Mr. Cresap. With the skirmish over and no more bullets whizzing through the air, the "making of the Line" once more got underway.

On March 2, 1765, the surveyors reviewed their planned method of running the West Line. They even resorted to the ingenious use of a lighted candle, set a little less than a mile ahead of their 70-power telescope, and thus arrived at significant conclusions on critical variation extremes. The most inaccurate calculation made at this distance was less than five inches from the center of perfection.

Freak Snowfall

Rain, six days of heavy clouds, and a freak three-foot snowfall delayed the survey several weeks. It was April 5 before fair weather let them work again. But now, treated to 10 full days and nights of excellent weather, the project really got in forward gear. Going ahead with gusto through wilderness and cleared land alike, the survey caravan crossed White Clay Creek, Little Christiana Creek, Great Christiana, and the Greater and Lesser Elk Rivers. The muffled plunk of wagon wheels hitting streambed mud and stones; the ring of expertly wielded axes; the crashing of obstructing virgin timber; the warm glow of campfires; the neigh of a horse at dawn; a multi-talented crewman coming in at dusk with a wild turkey or staggering beneath a burden of venison—all were familiar sights and sounds quietly noted by the two engineers.

On April 28 the surveyors again started to run a true line west. On the 30th they crossed the main branch of North East River. May weather, heartily welcomed, arrived warm and clear. By the 9th of the month they had crossed Octoraro Creek at 21 miles and 25 chains from "the Post Mark'd West." On the 11th they forded Conowingo Creek. So well was everything progressing that, "We worked on three consecutive Sabbath Days."

May 27: "The Susquehanna was



MASON-DIXON LINE is one of the world's most famous boundaries as well as part of American folklore. Original markers were set every mile, Crown Stones such as this every five miles. Photo shows Maryland side of stone with deeply cut shield from the Calverts' coat of arms. This well-preserved stone is near the eastern end of the Line.

sighted and approached—a magnificent inland river” It was an easy matter for the accomplished wizards in mathematics to accurately reckon by triangulation that the river at the survey point was just over 67½ chains—or 4455 feet—in width. (A surveyor’s chain is 66 feet long.) They were now “about 1½ miles to the South of Peach Bottom Ferry, 20 miles North of the head of Chesapeake Bay, and 57 miles West from Philadelphia.”

Achievements to date were checked with the powerful telescope. Fair weather allowed the transit-course Meridian tracing of such stars as Spica, Arcturus and Draco. June and part of July were consumed in careful examination of problem offsets in the Line, and in meeting with individuals authorized to release funds for the survey. But on July 26 they again started to extend the West Line, and from that date on until October 5, 1765, they allowed neither stream, mountain, torrent, thicket, nor swamp to place a deterring obstacle in their path!

As Mason and Dixon’s caravan advanced through the wilderness, crew leaders often routed and sometimes sighted panthers, black bears, and wolves.

New wagons, improved food (including

buckets of berries, wild honey, and strings of fish), rested axemen and chain bearers, time out for a little hunting—these things helped to improve the caravan’s morale. Now they were west of the Susquehanna, ready to ford the main branch of Deer Creek. Then they crossed the road between York and Baltimore. Various branches of the Gunpowder River were then crossed . . . “the fourth and last branch being not very far from the source of Codorus Creek in Pennsylvania.” The four branches of the Conewago also were crossed without mishap—and still westward the surveyors moved.

On August 5 the crossing of Piney Run was entered in Mason’s Journal, “a confluent of the Monocacy which empties into the great Potowmack” One oddity of this location: before they succeeded in establishing an acceptable line, the two surveyors crossed Piney Run no less than six times. They weren’t at all superstitious as to what might have caused the unusual snarl in progress, but some of the axemen had definite ideas concerning the hitch in normal operations. They openly declared that “jinx power” was striking with ominous signs in the neighborhood of Piney!

On August 7, the surveying team determined they were slightly more than 71 miles from “the Post Mark’d West.” They now had passed, or were in the process of passing, borderline cabins and land holdings titled to such names as Grise, Miller, Bower, Davis, McCewn, Everet, Young, Scot, Stevenson, Craft, Elder and many more settlers who, besides sometimes looking upon the Line with disdain and hostility, also viewed the project as an outright nuisance. Some settlers granted the affair only mild curiosity; others chose to ignore it, regarding the venture as nothing more than a costly piece of wilderness nonsense—a foolish experiment doomed to failure.

But these opinions did not hamper the survey group. Now they had crossed Rock, Marsh, and Middle creeks. Mason noted the crossing of Flat Run, Tom’s Creek, Friend’s Creek, and “two springs running into Antietam”

A fierce storm with “Lightning, Thunder, Hail, and Rain,” caused only a brief halt in the work at hand. Now the entire survey company was west of Cumberland Valley, at the foot of North (now Cove) Mountain. Recorded measurement at that point: 117 miles, 12 chains, 97 links.

The Carlisle-William’s Ferry road now had been crossed, as well as Conococheague Creek (132 feet wide at

point of crossing). After a 19-day review of their most recent progress, the surveyors set out to make certain Line adjustments at markers 109, 96, 87, 74, and 63. When this was finished, November 8 had arrived and all crewmen were laid off for the remainder of the year. Mason and Dixon made their way to Philadelphia and wintered there.

On November 21 the young—Mason was now 38 years old; Dixon 33—surveying team received notification of the arrival of 50 boundary markers. On December 7 they watched the careful unloading of 20 markers. There was something gratifyingly ceremonial about the event. No stone, according to pre-settled rules, was to be set except in the presence of a commissioner from each province. Each stone, well-fitted for the momentous mission they were fulfilling, was 34 inches long, 12 inches wide, and 11 inches thick.

On the “Betsy Lloyd”

Quarried on the Isle of Portland, Dorsetshire, England, the stones had been handsomely cut and carved there and were brought to America on the ship *Betsy Lloyd*. Forty of the stones carried the deep-cut letter P on one side, M on the opposite; 10 bore sculptured shields from the coats of arms of the Penns and the Calverts. The stones were blunted at the top, with semi-fluted sides.

April 1, 1766. Once again the survey crew started to extend the permanent West Line. New chain carriers “and other hands” were hired, and at 118 miles, 63 chains, they crossed the head of Little Licking (presently Little Cove) Creek. At 119 miles and 47 chains—about 11 miles south of Fort Loudon—they crossed the first spring running into Big Licking Creek on the west side. At that point, snow and rain brought operations to a standstill from April 6 until April 14.

The second half of April provided much improved weather. The resounding ring of axes on hardwood and the clinking of specialized chains announced that steady movement again was penetrating the far-reaching wilderness. On April 29 the survey caravan splashed into Sideling Hill Creek, 138 miles and 40 links from that vital “Post Mark’d West.”

Now, however, the route became more rugged, wild, difficult to traverse. Into the carefully protected Journal went notes on the crossing of Little Conoloway Creek, the Little and Big Bear Creeks, and other wilderness streams. The forest was dark and dense; every chain-length gained was an exhausting experience. The wagons

could not cross Sideling Hill but were forced to skirt it. A trying struggle went into the triumph that permitted entry of the measurement set officially at 140 miles, 15 chains, 76 links.

The going finally became so punishing that the surveyors were almost tempted to turn back. But summoning fresh resolve they worked their way over the top of Town Hill, and resolutely crossed Fifteen-Mile-Creek, Ragged Mountain, Old Town Creek, Warrior Mountain, Flintstone Creek and Mountain, Evit’s Mountain, two forks of Evit’s Creek, and Nobly Mountain. Next came crossing the road that led from Fort Cumberland (Maryland), to Bedford, (Pennsylvania); thence over the top of Hill’s Creek Mountain, the heavily timbered summit of Little Allegheny Mountain, and on to the north branch of Jennings Run. Not until June 8 were the surveyors able to reach the foot of Savage Mountain. On June 9, the caravan was 165 miles, 54 chains, 88 links from the now far-away “Post Mark’d West.”

At this site, even before the beginning of summer, the West Line survey came to a pre-determined halt. Now, for the sake of accuracy, it was necessary to return east. This “hind line” recheck required 13 weeks of careful retracing, exacting examination, and difficult work by the axemen who had to cut vistas along the true Parallel.

On September 30, work for the season was abandoned—and for very good reason. An unexpected problem now



WHEN MASON AND DIXON crossed this stream they called it the Little Youghioghny River. Today it is known as Casselman River. Scene is near Grantsville, Md. Line passes a short distance north of bridge.

confronted the frontier undertaking: Indian trouble!

The Six Nations had decided the boundary line survey should be halted. Sir William Johnson, the British Colonial Indian Agent, could offer no word of encouragement; the Redmen simply did not like the idea of "dividing lines" and looked upon them with an air of anxious suspicion. However, 500 pounds of Pennsylvania currency managed to sweeten some nasty but influential Indian dispositions, and firm hostility was turned into a sullen posture of uneasy agreement. So fragile was the granting of rights to proceed that not until May 24, 1767, did written assurance from the Indian Agent arrive. It stated simply: "An agreement has been made to permit the West Line to continue."

It was July 7, however, before the wagons, men, and instruments arrived full force at "the 1766 leaving-off place." With practiced smoothness the superbly capable team of engineers got the project off to a good start. On July 14 they were on top of the great dividing ridge of the Allegheny Mountains. They now were 168 miles and 78 chains on the West Line—and an event worthy of special note was about to take place on the wilderness scene.

On July 16 the surveyors suddenly found in their midst 16 Indians. They had approached with "the silence of wraiths." There were three Onodagas and 13 Mohocks, sent by the heads of the Six Nations. Happily, their mission turned out to be one of a helpful rather than harmful nature. They had instructions to conduct the group through the "Allegany" Country. A trader named Hugh Crawford acted as interpreter. Mason and Dixon looked upon the native guides with suspicion but accepted their services with "a gesture of forgetter-or-for-worse resignation"

Word Was "Forward"

The word then was *forward*, and with haste Little Meadow Run and two branches of the Little Youghiogheny were forded. (Earlier Journal entries had mentioned Pike Creek, Red Clay Creek, Mill Creek, and others.) On August 8 the survey party stood at 184 miles and 13 chains, and they were at the top of Little Laurel Hill. Next came the subduing of Winding Hill, and on August 9 they crossed General Braddock's Road "leading from Fort Cumberland to Fort Pitt."

Charles Mason's journal entry for August 11: "We are on the east bank of Ye Big Yochio Geni (Youghiogheny) at 194 miles, 25 chains, and 25 links from the



GRAVE OF General Braddock alongside the road he cut through the wilderness. It later became the National Road, now is U.S. 40. In his Journal, Charles Mason noted the Line's crossing of this road and dwelled briefly on the tragedy that overtook Braddock and his men.

Post Mark'd West in Alexander Bryan's field. We took our bearings on an island in the middle of the Yochio Geni"

At 198 miles, 69 chains, they crossed the top of a ridge that divides the waters of the Youghiogheny from those of Sandy Creek, which finally empties into Cheat River. On August 22 two of the Indians left the survey party to return to their own country. By now, Mason and Dixon had learned to be rather fond of the good-as-their-word companions. Sensing this trust in their honesty, the Redmen held a little ceremonial get-together before they set out into the wilderness.

Now came the broad open sweep of glade and meadow country. The westward trek was "drawing nigh to the point of the final foot." There was an uneventful fording of Little and Big Sandy creeks, and on September 2, at the foot of Laurel Hill, they recorded a firm measurement of 210 miles, 13 chains. Next came the easy crossing of McColloch's Creek, and on September 12 they arrived on the east bank of the Cheat River.

Here was another unexpected crimp in the schedule. The Indians suddenly put their heads together and struck up an argument; two of the Mohocks objected to crossing the Cheat, and a council had to

be called. After much powwowing, pointing, shrugging, and showing of surly tempers, "A settlement came to pass, and we crossed the stream on Monday, September 14"

At this point they were prepared to set milepost No. 222. (Additional stone markers had arrived in Philadelphia and were made ready for overland transportation in October, 1766.)

Mason and Dixon's axemen, chain bearers, drivers, and other help now numbered about 40 men. For a short time, everything went along with systematic smoothness; but at the Monongahela River post a sinister situation again plagued the extraordinary frontier assignment. Half the survey crew strongly protested crossing the Monongahela because of dangerous attitudes existing among regional Shawnee and Delaware Indians. On this occasion, however, Mason and Dixon's Indian guides stood unmoved by the lustily expressed fears. All but 15 axemen quit. But with these they crossed the Monongahela and, with the benefit of some serious advance scouting, warily pressed westward.

Mason's journal indicates that the low-water crossing of the Monongahela showed it to be but 5 chains in width (330 feet). At 227 miles and 77 chains the survey party hired more men "some from the Redstone region, and some all the way from Fort Cumberland, the satisfaction of adequate help being restored"

On Friday, October 9, "grief came a-stalking" Mason and Dixon and their reinforced crew had crossed the sinuous Dunkard Creek three times and were almost 233 miles from the Post at which the West Line had begun. A short distance beyond this point—and without warning of any kind—the chief of all Indians accompanying the party called a halt. A war path had been crossed near Dunkard Creek, and here the chief's authority ended. His superiors had emphatically ordered him not to proceed one step beyond. This decision was unyielding, but not visibly hostile. Mason and Dixon took advantage of the pause to make some important observations. Here they used the zenith sector for the last time on the West Line. Their position now was 233 miles, 13 chains, 68 links.

From the summit of a cautiously examined ridge close by, the surveyors took time to put up a crude observatory, and a complete check of the stars was made. The chieftain of the Six Nations again was consulted concerning possi-

bilities of approving a brief move westward. But what he'd said at Dunkard Creek—"You go no further!"—still held. The end of the West Line officially stopped at 233 miles, 17 chains, 48 links.

On November 5, 1767, this entry went into Mason's Journal: "All hands, except 13 kept to help in setting the Marks, were discharged, and the Indians left us in order to return home"

As far as Mason and Dixon were concerned, the always wearying and often frustrating survey was over. They returned to Philadelphia and "drew a plan of the Boundary Line between the Provinces of Maryland and Pennsylvania"—a work at once recognized by knowing men as a beautiful masterpiece in cartography.

Final agreement on the Line was made by 12 signatures—seven from Maryland, five from Pennsylvania. The instrument was signed and sealed, "A true and exact plan and survey . . . that has been marked, run out, settled, fixed, and determined." Fifteen pages were required for the full report, which to this day is in perfect condition and is owned by the Pennsylvania Historical Society.

Costs

Cost of the survey: The Penns, 8374 pounds; and a like sum from the Calverts. Mason and Dixon's share of the total cost: 3512 pounds and 9 shillings.

As the years went by, much of the work of the surveyors became undone. Some of the original boundary stones are missing—removed by farmers who found them in the way at plowing time; utilized by builders in need of true-cut stone for a wall; shifted by property owners who felt that their land was on the wrong side of the Line; or pilfered by collectors.

But the work of Mason and Dixon has endured. Their calculations were so exact that only minor changes had to be made when settlement made sectional resurveys necessary. The first of these, made in 1849, was under the supervision of Lt. Col. James D. Graham of the U. S. Army Engineers. He made a point of praising Mason and Dixon's triumph as "a surprisingly accurate survey." The U. S. Coast and Geodetic Survey confirmed this "remarkably - small - degree - of - error" evaluation in 1885, and again in 1902.

Of Mason and Dixon it was said: "Neither man ever failed to do less than a meticulous piece of work. Both compel admiration, and, weighing the texture of the trials that went into the laying of the Line, it should be a sufficient monument for them!"



N. Roshto

Five Who Wouldn't Wait

By William A. Bower

DGP, Bradford County

THE 1975 hunting season was an unusually busy one for me. This was because I was covering two districts (a vacancy existed in the Towanda District of Bradford County) and also had been assigned to help train student officers during their field assignments.

Thinking back on the season, I recall many humorous and many not quite so humorous incidents which occurred. One of the latter happened while Trainee Tim Marks was assigned to me, and I'm sure neither of us will forget it.

It was the day before the opening of deer season. Tim and I were at my Headquarters trying to finish up the required monthly reports, as we knew the next few weeks would give us little time for such work. My wife and children had just returned from Christmas shopping—I'm not sure whether she uses these trips to actually do her shopping, or to rest up for the coming weeks.

Hunters were streaming into all the northern counties of Pennsylvania, and Bradford County was no exception. The population explosion—it occurs prior to every deer season—kept local merchants busy. The phone was ringing constantly; other hunters were knocking on the door, asking questions and directions, and I was beginning to feel the first symptoms of the deer season virus. For those of you who are not game protectors, it is a combination of anticipation and excitement plus a cold sweat of anxiety. The big problem is trying to put 48 hours into one day.

As one group of hunters left the house, my phone rang. The callers had found a deer that had been shot illegally and thought I would want to know about it. I got directions and told them I would meet them in approximately 20 minutes. Tim stayed at the typewriter while I drove to the area on Armenia Mountain and met the hunters. While

getting out of the vehicle, my two-way radio blared out my call letters. Tim had received a call from Deputy Gary Stevens. A deer had been killed in the Wyalusing area and he wanted some help. Gary was a rather new deputy and had not been in on many investigations, so under the circumstances his call was to be expected. A message was relayed to him that he would be contacted by phone.

The hunters then showed me the deer they'd found. It had been shot through the neck, probably the night before. One thing was certain—whoever shot it knew he had killed the deer because it had dropped in its tracks. No attempt had been made to pick it up, and by this time it was starting to bloat and was of no use to anyone.

I thanked the hunters for their concern and departed. When I got back to headquarters, Tim filled in the rest of the information from Deputy Stevens. A landowner had found a freshly killed buck. It was way back in the woods and quite a distance from any roads. No one had been observed near it. Stevens was contacted and told that Bill Pelton, from Towanda, was coming down to assist him. Bill was also a new deputy, but I felt they could handle anything they encountered. I told Gary that he and Bill should stake out the deer.

Freshly Killed Buck

Later that evening Stevens reported that no one had come back for the deer. The deputies felt that whoever had done the shooting did not realize they had killed this buck; apparently it had run through a small woods and across a field, then dropped dead at the edge of another wooded area. Stevens and Pelton had been able to determine,



WE STARTED the search. To get into the cellar, we had to move a couch. After opening the door, Tim called out, "Here it is," and pulled a buck from the cellar steps.

however, that whoever shot this deer also had shot and killed another one which they took. The deputies had followed the drag marks of the second deer for some distance.

It had started to rain by the time Tim and I met the deputies. We parked my state car and piled in the back of Bill's pickup. We had two choices: one was a two-mile walk uphill to get to the area, and the other was to drive Bill's truck past two camps which might have been involved. We decided against the walk and received permission from the landowner to drive up his lane. It was rutted and quite muddy, but thanks to Bill's 4-wheel-drive pickup, we got to the area.

The drag marks were not hard to follow at first because we found deer hair on sharp stones and barbed wire, but as time wore on the marks became fewer. Occasionally we lost the trail and had to have one man stand at the last tuft of hair while the others circled the

area until we could pick up some sign again. The rain made trailing even more difficult. Whoever dragged the deer out had tried to stay concealed in heavy cover. Several times it seemed like a lost cause. Our flashlights were becoming dim and the rain was eliminating all drag marks.

I checked the time. Several hours had elapsed since we drove up the lane. Finally, we were able to follow the drag marks to within approximately 300 yards of a camp. We felt certain the deer had been taken to that camp, and I told Tim and Gary to follow the tracks while Bill and I went back to get the truck. We would meet on the hardtop in front of the camp. About an hour later Tim and Gary flagged us down. They had tracked the drag marks to within 60 yards of the camp and they felt certain the deer was there.

Enough Evidence

I decided we had enough evidence and information to request a search warrant. The next thing was, where to get one? The nearest available justice of the peace was Jack Huffman in Troy, which was across the county. I radioed the Field Division office in Dallas to see if any deputies were working in the Troy area. Deputy Ross answered and was instructed to go to Mr. Huffman's home, where I would phone all information to him. The justice of the peace was informed that a deputy was on his way to obtain a search warrant. Because we felt that the occupants of the camp would be hunting at the time we could search the next morning, and by that time it would also be legal to possess a deer, a night search warrant was issued to Deputy Ross.

Ross met us about midnight. We spent the next half hour going over the procedure we were going to use and other pertinent information, so it was not until 12:30 a.m. that we were able to knock on the door of the camp. Several loud knocks were needed to arouse the occupants. A voice yelled, "Who's there?" Tim answered, "The Game Commission, open the door." In the next few minutes, we heard voices and what sounded like furniture being moved. Finally the front door was

opened. We identified ourselves and stated that we had a warrant to search the premises for deer. The man invited us in and stated that they had no deer but we could look around if we wanted to.

There were five men in the room. Peculiarly, only one had gotten up; the four others stayed in their sacks. The camp was like most other deer camps: hunters sleeping on cots, wool coats and boots hanging here and there, prepared for the next day's hunt, guns leaning in corners, etc. Another man got up and came over to add his assurance that they did not have any deer. Tim had handed them their copy of the search warrant and was reading it to them when the deputy stationed at the back door yelled that he had found deer hair on the steps. The men still insisted they knew nothing of a deer.

Tim, Ross and I started the search. We had to move a couch to get to the cellar door. After opening the door, Tim called out, "Here it is," and pulled a buck from the cellar steps.

The deer was carried out, and Tim went down into the cellar. Ross and I were shaking the other men out of their bunks when we heard Tim call, "Here's two more."

After completing the search and making certain there were no more deer, we asked each camp member to bring his firearm and some identification into the kitchen so we could get the information we needed.

This done, we told them to get

dressed as we all were going to Troy. They grumbled a bit but got into their clothes. Bringing their firearms with them, they got into the truck and we started the long ride to the justice of the peace's office. We notified Mr. Huffman by radio that we were on our way. The ride was a rather quiet one. We reached the JP's office and filed charges against all five individuals. They pleaded guilty. Each man's fine came to \$611. One man had the money in his wallet to pay his fine. The others did not have that much cash, and it was necessary for them to phone their wives at 4 a.m. asking them to send the money. It was evident that the calls were not happily received. Arrangements were finally made to send the money by Western Union after the banks opened in the morning.

Commitment papers were typed and the four men who had not paid their full fines were transported to Towanda, where they would spend at least the first day of deer season in the Bradford County jail awaiting the arrival of the money. The Game Commission later received a check from District Magistrate Huffinan in the amount of \$3000. It seems poetic justice that this money will be used to replenish game which these men had taken illegally.

Tim and I returned to my headquarters where my wife told us that I had an important call which had to be answered immediately. It was 8 a.m. The 1975 deer season was well under way.

State History Magazine Now Available

Pennsylvania history fans will be interested to know that the Pennsylvania Historical and Museum Commission is now publishing a magazine called *Pennsylvania Heritage*. This quarterly, edited by Betty Seanor, is devoted to in-depth coverage of significant and interesting areas of Pennsylvania history. In addition, each issue features highlights on one county. Subscriptions are \$2 annually. Make checks payable to the Pennsylvania Historical and Museum Commission and mail to *Pennsylvania Heritage*, Box 1026, Harrisburg, Pa. 17120.

Stuck Up

Hog-nosed snakes have a pig-like appearance due to a prominent, upturned scale on the tip of the snout.

Daniel Carter Beard—

AVID OUTDOORSMAN

By William V. Kahler, Ph.D.



DAN BEARD DEMONSTRATING his hatchet-throwing skill to youngsters attending his Outdoor School in northeastern Pennsylvania.

DANIEL C. BEARD was born on June 21, 1850, in Cincinnati, Ohio. Those were still the days when a man who journeyed alone into the wilderness beyond the Ohio either lived or died by his own ability to accommodate himself to nature. Most of his youth was spent in the enthusiastic cult of the out-of-doors and woodcraft. He perpetuated the ideals of the pioneers who, by their knowledge of nature's book, surmounted the task of the winning of the west. During his boyhood, Beard learned woodcraft, handicraft and Indian lore, which strengthened his love of the out-of-doors. From his family and their pioneer influence, he learned the star-spangled brand of Americanism that he preached throughout his lifetime and inculcated in millions of Americans.

Beard was a New Yorker by occupational choice, but in 1887 he bought a tract of wooded land in northeastern

Pennsylvania. The property was in the Pocono Mountain area near Hawley, and bordered Lake Teedyskung, sometimes referred to as Big Tink Lake.

As an outdoorsman, Beard's greatest love was fly fishing. He had a friend, James Johnson, in the nearby town of Binghamton, N.Y., with whom he often hunted and fished. The love of the wilderness and fishing and the nearness of his friend influenced him to purchase the property. Johnson, along with a group of Maine lumberjacks, helped Beard build the first of three log cabins on the property. The first log cabin was a two-story, four-bedroom structure, complete with sleeping porch. It was described as the first real log cabin built after the pioneer area ended. From 1887 to 1916, the mountain retreat was used exclusively as a summer home and studio. From 1916 to 1939 the wilderness property was the site of Beard's summer and winter camp, the Dan

Beard Outdoor School For Boys.

Beard's professional career was that of writer, artist and illustrator. As the author of twenty books on woodcraft and handicraft and countless magazine articles, Beard made a tremendous impact on the conservation scene. He frequently wrote, "In all my writings I have tried to make my readers love nature, especially the primitive wilderness, unmanicured, unshaven, without a haircut . . ." In his outdoor education articles and books, he was the first youth writer to take the reader out to the fields and woods, the streams and lakes, and teach the arts, joys and rewards of woodcraft, fishing, trapping, hunting, boating, and camping.

Beard emphasized outdoor activities at a time when the attention of most parents and educators was focused upon calisthenics and indoor activities. The description of these outdoor activities, which he related with such contagious enthusiasm, all contained detailed advice and instruction. At the time of this writing, materials and activities stressed by Beard are being taught as a part of the outdoor education programs in various Pennsylvania schools and colleges.

That he succeeded is attested to by the number of people who gave Dan Beard credit for their early interest in conservation, among them Teddy Roosevelt (former President of the United States), Gifford Pinchot (former Governor of Pennsylvania), William Carr (founder of the Arizona-Sonora Desert Museum), and Beard's son Daniel "Bart" Beard (first superintendent of Everglades National Park who, although now retired, was a leading figure in the National Park Service).

To his active professional career, Beard, in 1905, added the editorship of *Recreation*, a sportsman's monthly, which under his direction took up the battle for wildlife conservation. To promote circulation, he organized the Sons of Daniel Boone, a boy's society dedicated to conservation, outdoor life and the pioneer spirit. He left *Recreation* in 1906 and affiliated his boys group with another magazine, the *Women's Home Companion*. Two years later he became disturbed over continual interference

and severed ties with both the *Companion* and the Sons of Daniel Boone. Beard then joined *Pictorial Review* and founded the Boy Pioneers of America (1909). This new society, like the earlier one, was an organized effort to remedy what Beard saw as the declining state of urban youth.

Beard's youth service organizations had some influence on Sir Robert Baden-Powell's formation of the Boy Scouts in England in 1908. This in turn inspired the consolidation of Beard's and other boys' societies into the Boy Scouts of America, in 1910. Although Beard did not initiate the consolidation, he was a charter member of the executive committee and was appointed one of three National Scout Commissioners. He designed the Scout uniform, which was planned both for utility and as a symbol of the American frontiersman. Conservation, learning by doing, games and outdoor activities were influences Beard helped develop within the Scouting movement. As the head of volunteer leadership, Beard



BEARD—known as Uncle Dan to thousands—teaching a handicraft class at his Outdoor School for Boys at Lake Teedyskung (Big Tink Lake) near Hawley.

unsuccessfully opposed the increased dominance of the Boy Scouts by the executive secretary, James E. West, and his National Headquarters staff. Beard felt the figureheads at Scout headquarters knew very little about the background of Scouting and the practical application of the methods.

As Scouting developed, Beard, through his personality, white buckskin dress and spry figure, became "Uncle Dan," the American folk hero. He was widely known through his monthly column in the Scout magazine *Boys' Life*, and through his extensive correspondence with boys and with youth leaders.

For almost three decades, Beard had a direct association with young boys through his involvement with outdoor camps. With financial assistance from friends, in June of 1916 he opened the Outdoor School at his camp on Lake Teedyuskung.

Beard regarded his Outdoor School as a serious educational experiment to make "the boys of today the men of tomorrow." To achieve this goal, he designed the school's activities around the woodcraft, handicraft, nature study

and patriotic programs of his articles and books for youth. The camp had a high quality of outdoor physical education, supervision, food and living facilities for its thirty-five to eighty boys.

"Learn by doing" was the theme of the Outdoor School. Beard's belief was that every boy was born with untold capabilities for creative expression and that his Outdoor School was the means of developing this power, enabling his pupils to become leaders in the modern world. Outdoor education classes were held daily, and the manual of the Boy Scouts of America was used as a textbook.

Despite some unique activities (hatchet throwing), the Outdoor School did not differ fundamentally from other boys' camps in its program or its effect upon the boys. The school's major attraction was Beard, known as "Chief," clad in sheepskin and buckskin outfits, skillfully teaching outdoor activities, dramatically recounting the lives of American pioneers, and encouraging physical, mental, moral and spiritual development. Beard inspired affection, devotion and awe among his counselors and campers.

"Uncle Dan" would be overjoyed at the recent surge of public interest in the outdoors and its welfare. What current enthusiasts may not realize is that they, too, are directly indebted to this patriot who did so much to make the rugged outdoor life respectable and appealing.



PENNSYLVANIA
OFFICIAL STATE FLOWER-ANIMAL-BIRD-TREE

PENNSYLVANIA Symbols Chart, left, painted by Ned Smith and featuring the official state animal, bird, flower and tree, measures 20 x 30 inches. Full color prints are available from the Division of Information and Education, Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. Price is 75 cents, delivered.

Wild Fruit of June

By Bill Rozday



GATHERING OUTDOOR FOOD such as wild strawberries, raspberries, cherries, etc., is a backwoodsman's art, in the minds of many. Rozday claims they don't know what they're missing.

THE GATHERING and preparation of wild food is still a backwoodsman's art. Solidly confirmed outdoorsmen take heed of the flood of printed matter on the subject, but to most suburban dwellers, a wild food gatherer may as well be Daniel Boone.

That's fine with me. But it isn't fine for society, and it's no longer anything to joke about—when you can actually sense in some people a fear of nature and total alienation from nature, it becomes eerie. Each year I fill my containers with wild delicacies, while the 500 other people in my neighborhood have no knowledge of the abundant natural food available in Pennsylvania's fields and forests. In this article I'm coming out of the backwoods to tell them and everyone else about the subject.

Several hundred yards from my home, a faint trail runs behind a restored barn. It goes downhill for about 150 feet and crosses a tiny rivulet. Behind a clump of trees is a field, and beyond a sumac patch is another field.

I've just told all my neighbors where my wild strawberry patch lies. But their concern for the calendar of the outdoors encompasses only the first days of spring, summer, fall and winter. Even if I were to point out a wild strawberry patch in their backyard, they probably would never utilize it because they don't know when to do so. The first hints of strawberry season around Pittsburgh show up in the first few days of June and continue on into the final week. The three weeks in between make up the main part of the season.

Suburbanites often find hard work intolerable—not brutally hard labor, but unadorned physical work that gets them out into the burning sun and makes the fingers of the hands strong. So they don't use wild strawberries, because you have to clean each tiny berry one at a time, and you have to sit in the hot sun. Sometimes there are so many berries that your jeans are stained red.

That's how it was when I gathered berries last June. I picked around six quarts that summer, four in one sitting.

Strawberries, I'm sure your wife has noticed, are around a dollar a quart these days. So I saved six dollars—but had a lot more fun above and beyond that small sum. The outdoorsman doesn't save only on the berries themselves. Take your wild berries and add whipped cream and cake to make strawberry shortcake, an expensive delicacy in the finest restaurants. And you can make strawberry jam from your berries. This stuff takes your mind right back to strawberry time, even during winter.

Common Man's Health Food

Many of us go into health food stores and buy natural food and vitamins, paying higher prices for these "specialty" products. Wild fruit is a common man's health food because it's never been sprayed or handled and thus is cleaner than cultivated fruit. Domesticated strawberries don't begin to compare to wild ones in sweetness. Wild food is a great deal like your woodpile, returning physical benefits twice over.

About two weeks after wild strawberry season has begun, sour cherry time comes along. Right below the restored barn I told you about are the remains of an old homestead, a good type of place in which to pick sour cherries for pies. Birds soon strip the trees clean, in the process taking all the really ripe fruit which can often be eaten from the hand just like the sweet white cherries someone let run wild.

The fruit feels warm and smooth as you pick it. It seems very easy to pick sour cherries and fill a couple of quarts after having so much trouble cleaning strawberries. I like to smell the cherry-scented trees and the fruit itself lying in the container.

A third kind of fruit ripens at the same time as the sour cherry. This is the juneberry, or shadberry. To find juneberries, you have to remember back to early spring, back to the first white blossoms in the hardwood forest. These bushes and trees were junebushes; as knowledge of natural history is required before you can even find them, shadberries are really

"pioneer" food to most suburbanites nowadays. This is what prevents most people from using wild food—a lack of natural knowledge.

Shadberries always remind me of the north woods. In the place where I gathered mine, there was a half-mile long path lined with rare trailing arbutus. Here, back a bit from the shore of a lake, early *Boletus* mushrooms decorated the moss. I not only found late fire pinks but exotic bowman's root and wild sweet william. Everywhere along the path through this hardwood forest were snow-like traces of partridgeberry.

Juneberries can be picked only from a low-growing tree, one with vertically pointed branches which are close to earth. If you find enough shadberries to make a pie, tell me how it tastes, as I've never tried it. It is said that cooking the berries gives them a new flavor. These pink and purple berries lack the distinctive taste of other berries and have a kind of dull sweetness.

In June, a person can pick four kinds of fruit at once—sour cherries, strawberries, juneberries and raspberries. Around Pittsburgh, raspberries begin to ripen during the last week in June. To find them, I take the same path which I used in search of cherries and strawberries, but I follow it another 300 yards. There is a waterline with eroded red clay, and raspberry bushes line it as it goes downhill. Raspberries are usually, if not always, found on the edges of an open place.

You will find yourself always remembering the summer's first taste of raspberries. When you crush them and make a purple milk, you forget that strawberries even exist in your territory.

Last year's total yield of raspberries from that place along the waterline was 16 quarts. Apparently, nobody but this "old pioneer" wanted to walk a quarter of a mile to pick them.

"Who is he?" "Boy, does he know the wilderness," I hear my neighbors marvel. My strawberries and other wild fruit must make me a Daniel Boone of sorts to them.



When the Grass Gets High, I Go . . .

Handgunning for Chucks

By Howard Mortimer

THE DEW-LADEN grass had soaked my blue jeans to the knees, and I could feel my heavy socks squishing inside my "waterproof" boots. As long as I kept moving everything was fine, the heat from my body keeping me warm and comfortable, but when I slowed my walk or stopped to survey the grassy fields around me, the wet cloth became clammy and uncomfortable. In a couple of hours the warm sun would burn the dew off the grass, and my pants and boots would dry along with it. Until then I would just have to put up with the discomfort because I knew it was the moist grass that brought the woodchucks out of their holes on these June mornings.

My uncomfortable clothing, along with the anticipation of getting a couple of chucks with a brand new gun, had

me walking a little faster than I should have. When a chuck popped up in front of me shooting gallery style, I was as startled as he was. The advantage was all his. He was sitting right at the edge of his hole and by the time I raised and cocked my handgun, he had disappeared. I growled at myself for not being more ready.

I started out again, more slowly this time, determined to be ready for the next opportunity. Handgunning for woodchucks is almost always a game of surprise; but I knew that if I worked it right, the chuck would be more surprised than I was. Then the advantage would be mine.

I crept along quietly for another hundred yards, taking a few steps, stopping to look around, then a few more steps, then stop and look. Near the

corner of the field I noticed the tips of the grass moving. I watched a few moments. They moved again. I calculated the distance. It was 30 or 35 yards away. My gun was shot in for 25 yards. This time I had the advantage—I'd seen the chuck, or what I thought was a chuck, before it had seen me. I had to make certain of my target, of course, so decided to move in as close as I could.

I crept along, one careful step after another, until I was only 20 yards from the place where I had seen the grass move. Just as I started to take one last step, the chuck seemed to sense me and sat up to look around. I snapped the hammer back, dropped the sight onto his head and squeezed the trigger, all in one motion. The gun roared, and the chuck disappeared in the tall grass. I ran over to where I had last seen him. He hadn't moved an inch. My 222 handload had performed perfectly.

I started out again, mentally patting myself on the back for the nice shot I had made. Before I had taken twenty steps, another woodchuck popped up in front of me, then dropped down and started for his hole inside the edge of the woods. I swung and fired. He rolled to a halt just three feet from his hole.

HANDGUNNING for chucks is a relaxing way to hunt. There's no need to lug a heavy scope-sighted varmint rifle. All you need is a good handgun and some ammo.



By 10 o'clock I had killed four more chucks and missed two others. As I started back toward my car I couldn't help reflecting on the advantage I had over the guys who hunt woodchucks only in the time-honored way, with powerful telescopic sights on fast, flat-shooting rifles. I have hunted woodchucks for as long as I can remember, and I have always loved the sport, but hunting them with a handgun gives me that extra challenge that has turned an exciting sport into a love affair.

Sophisticated Sport

One of the first real advantages of handgunning for woodchucks is that you get to hunt new territory, so to speak. Chuck hunting has become a sophisticated sport. Any chuck hunter worth his salt has at least one fast, accurate center fire rifle teamed with a high-magnification scope that is his favorite outfit. With it he can reach out 300 to 400 yards and pop chucks consistently. Well . . . occasionally. Chuck hunters are constantly searching for a gun that will reach out farther, shoot flatter, and get to the target quicker. Yet, despite all this mania for speed and distance, something of the thrill has gone out of the sport for some of us.

When I first started chuck hunting, the only gun I had was an open-sighted 22 rifle. Any chucks I got were shot at 50 yards or less, and I had to shoot them through the head if I wanted to be certain of an instant kill. That meant I had to stalk carefully to get in close, and when I did connect, I had worked hard to do it. During the years that followed, I owned a couple of dozen fine chuck rifles, any one of which was capable of dropping a chuck halfway into the next county. But somehow getting a chuck that way just didn't seem to hold the same thrill and excitement of the old short-range 22 rimfire shot. So I began handgunning for chucks.

The first thing I do each season is scout out some new territory, places which are overgrown with thick grass and weeds, places where it would be impossible to stand back even 100 yards and shoot. There are plenty of these places along steep hillsides, along old

fencerows that are no longer farmed, or even in open, grassy sections of woods. These places hold the really big chucks, the ones that the sophisticated chuckster with all his long-range equipment never gets to see. These are chucks that seldom, if ever, have been shot at, so they are usually not as wary as their open-country cousins. These have had the opportunity to feed for several summers on lush grasses and have grown to record-breaking proportions. These are the ones any real chuckster is proud to get. But hunting them is a whole different kind of ball game.

In his thick, lush hiding place, the chuck is a different animal. He is relaxed and confident, not so much the keen-eyed phantom who checks out the serial number of your gun at 200 yards and drops into the nearest hole at the slightest sign of danger. He's still sharp, but in this thick stuff he's a lot easier to find and there's a heck of a lot more action.

You start out by wading into the waist-high grass with your handgun ready. Not cocked, of course, and not with your finger on the trigger, but usually with the gun in your hand because the opportunities you'll get will come quickly. You'll have chucks pop up so close to you they'll startle you. It's not uncommon to get within six feet if you're a good stalker. Usually it's a case of mutual surprise. He'll see you at about the same time you spot him. That gives you time, at most, for one quick shot. Sometimes it'll be a standing shot just a few yards away. At other times it'll be a running shot and you have to be quick and accurate if you're going to score. On the average you'll get three or four times as much shooting as you're accustomed to, if you've selected a good territory. Often I make mental notes on likely looking spots while I'm hunting rabbits in the fall. Then the grass and weeds are beat down by the frost and chuck holes stick out all over the place like warts. Sometimes you can find holes perhaps a hundred feet or so apart, stretching for a half-mile or more.

Safety must always be kept in mind while chuck hunting. Some accidents



AUTHOR'S WIFE, Pat, prefers 221 Fireball in the Remington XP100 for chucks. This fast, accurate outfit is topped with a 4x Redfield for long-range shooting.

occur in this sport every year. Working the thick cover adds to the problem. I always wear a blaze orange hat and vest so the long-range guys will have no trouble telling me from a chuck.

Equipping for this kind of hunting is much easier and a lot less expensive than it is for the long-range shooting. You can leave the heavy-barrel, target-scoped rifle, spotting scope and tripod, heavy binoculars, and shooting rest all at home. All you'll need is a good handgun and a pocketful of shells. I prefer a centerfire cartridge. The 22 rimfire just does not provide enough punch for woodchucks, especially when you have to shoot quickly and can't always be sure of a perfect head shot.

Dozens of fine quality handguns are available for this kind of hunting. I started out using a light load in a 357 Magnum because I was using that gun for hunting deer and I wanted the extra practice with it. I've also used a loaded-down 44 Magnum for the same reason. Chuck hunting is some of the best shooting you'll ever get with a handgun, so if you plan to take one along for big game, you'll do well to use the same gun for woodchucks. Before long you'll find that handgun hunting is an easy, effortless way to hunt, and you might find yourself leaving your rifle at



MORTIMER with the proof of the pudding. Fencerows dividing fields far from any road provide plenty of shooting for handgunners.

home in deer season too, especially when you become more confident of your ability with a handgun.

Some companies cater to the handgunning varmint shooter by making special guns for the purpose. Remington, for example, produces the

XP-100 chambered for the 221 Fireball cartridge. Topped with a low-power scope it makes an excellent medium-range varmint gun. Mine carries a 4X Redfield Widefield scope and is sighted in at 100 yards. I have taken woodchucks to 270 yards with it, but for close shots in heavy cover the 4X scope has too much power.

One of my favorite guns is the Thompson Center Arms single shot "Contender." I have it topped with T/C's 1½x Phantom and sighted in for 25 yards. For woodchucks I use the 222 Remington barrel. It puts a chuck down for good with any reasonable hit. The 1½x sight is excellent for close ones, yet I can shoot 50 to 100 yards with excellent accuracy if I need to. For big game hunting I simply switch barrels and I'm ready to go with a 357 or 44 Magnum. That's one reason I like it so well. I can switch barrels to anything from 22 rimfire to 44 Magnum without changing the feel of the gun appreciably.

It really doesn't matter which handgun you choose so long as it is reliable and accurate with enough punch to stop a woodchuck quickly. I wouldn't go any smaller than the 22 WMR, and unless you're an excellent shot, I would advise something with a little more punch, such as the 22 Jet or the 256 Winchester. You'll find plenty of guns capable of doing the job in all price ranges.

As an added bonus you'll get a microscopic view of your hunting territory. You'll be working on a nose-to-nose basis with rabbits, grouse, doves, and even deer, so that when the regular season arrives you'll have a real sense of the land and the game. That's just one more benefit you get from handgunning for woodchucks.

The Feet Have It

The feet of birds show adaptation to their habits: parrot and crow for grasping; woodpecker for gripping trees; jungle fowl (males only) spurs for fighting; eagle for seizing prey; Ostrich for running; coot for paddling; mallard for swimming; jacana for walking on lily pads and ptarmigan on snow.



How to Bag Your Trophy Book

By Phil Bucher

I COLLECT wildlife literature. Books, magazines, newspaper clippings, pamphlets—anything written about wildlife. My wildlife library has grown incredibly since I developed this passion several years ago. I rarely feed it more than one item at a time, but if I sneak downstairs at night, I can hear it, eating and growing.

I fervently pursue this hobby because I believe it is a sportsman's responsibility to learn as much as possible about the game he pursues. The hunter who literally "bags" a game bird without first pausing to admire the creature displays either ignorance or immaturity to his comrades. Have you ever noticed the respect a hunter receives when he informs his companions of the age

of a ringneck by shaking the bird while grasping the lower jaw? (If the jaw breaks, it generally means the pheasant is a bird of the year). Or the pause for thought he creates by pointing out that high fox populations do not signify doom for small game but often indicate just the opposite—a surplus of game which attracts both foxes and hunters.

The knowledgeable hunter who objects to shooting a sitting game bird may be called a "purist" by the meat hunter. But the sportsman who is well read has also done some thinking about wildlife values. He refrains from such shooting because it simply isn't the ethical thing to do. The more a sportsman reads, the more he will think. And a thinking man could not possibly violate his own values.

Of course, there are other reasons for developing a wildlife library. If I collect the proper items, my hobby may become a wise financial investment. Owners of *The Ruffed Grouse* can ask and get \$55 and up for this magnificent study which only a couple of years ago sold for \$6.

But the most dedicated wildlife bibliophile is the one who must satisfy a need to collect. I've collected leaves, fruits and nuts, flowers, and game bird tail feathers but they all seem to crinkle, crack or get sucked up by the vacuum cleaner. Only the written word retains its shape and value.

Develop a Plan

The first step in building a wildlife library is to develop a plan. Decide whether you want a few representative works in all areas of wildlife literature or an extensive collection on a rather narrow topic. Without such a plan, you will succumb to the collector's curse known as impulse buying. On impulse, I picked up copies of Brusewitz's *Hunting*, a dozen outdated issues of "The Conservationist" magazine, and an early edition of Parson's *Conserving American Resources*. I bought them at greatly reduced prices and they helped satisfy my need to collect. But I have not read any of these items and Brusewitz's epic was printed on legal-size paper that doesn't even fit my bookshelf. My plan is to acquire a copy of anything in which I am, or may become, interested. However, if that interest never matures, I've wasted my money unless I have a garage sale and hope to attract another impulse buyer.

How do you decide what to buy? Ask the experts. In 1974, Pennsylvania State University Cooperative Extension Service surveyed 78 colleges and universities that offer undergraduate courses in wildlife management and identified 71 publications used as textbooks or reference material by the professors. Since a professor spends as much time as possible

reading and evaluating anything related to his field, I concluded that the books most frequently used in college level wildlife courses represented the best. Thus, I purchased Allen's *Our Wildlife Legacy* and Leopold's *Game Management*. Dasmann's *Wildlife Biology* is also widely used but it is not as easily understood by the layman. A "Wildlife Readings" bibliography which includes titles of both popular and technical publications may be obtained, free, by writing to Pennsylvania State University, School of Forest Resources, 111 Ferguson Building, University Park, Pennsylvania 16802.

Magazines such as "Audubon," New York state's "The Conservationist," and GAME NEWS contain book reviews of interest to sportsmen. The "Journal of Wildlife Management," reflecting the professional wildlife scientist's opinions, carries very detailed and candid critiques of recent publications. These reviews keep me posted on new wildlife publications, and the reviewers' comments help me evaluate the contents.

Where do you find what you want to buy? In my case, I modify the question by asking "Where can I get it at a discount?" Some of the best bargains are available from the state departments of conservation, the federal government, and from private conservation organizations. The Wildlife Society recently sent the President's Council on Inflation into ecstasy by reducing the price of *The Wild Turkey* from \$6 to \$4.

Book clubs such as those of "Outdoor Life," "Field and Stream," and "American Rod and Gun" motivate the collector to join by offering him four selections for a nominal fee—usually less than \$2. The enrollee is then obligated to buy a certain num-

Give

GAME NEWS

To a Friend . . .

ber of books a year. I joined all three and eventually enrolled my wife in one. I later dropped out of that one but she still gets flyers on the latest edition of *Gun Digest*, even though she thinks "muzzle velocity" is a measure of how hard our dog sneezes.

Book stores often have sales which either challenge your control over impulse buying or offer you great opportunities to pick up real bargains at fantastic discounts, depending on your point of view. I recently visited a store with hardbacks on sale. Keith Schuyler's *Archery* was marked at \$2.98; the retail price is \$12. I don't own a bow so I calmly put the book down, saying, "No, no, no." However, I am a logical person and I reasoned it would be most illogical to pass up a 75 percent discount. And so I didn't. *Archery* looks very impressive on my bookshelf next to *Nymphs* which I picked up at a 50 percent reduction. I'm not a fly fisherman either, but passing up such a bargain would have been illogical.

How do you keep track of what you get? Actually, the problem is not in keeping track of what you get but in finding where you filed it. In ten seconds I can tell you what literature I have on the ruffed grouse but I need at least ten minutes to retrieve it.

Books are comparatively hard to lose because the title is printed on the spine. But newspaper articles, brochures, pamphlets, or anything smaller than Carver's *The Compact Book of Fish and Game Cookery* presents problems. Such spineless items must be kept in a folder or box which is clearly labeled to indicate the contents. Then one must decide whether to file the ugly container next to one's expensive hardcover books or on the bottom shelf beside your wife's high school yearbook.

Once filed, the trick is finding the article on some obscure subject for which I did not create a special container. Here is where a skillfully designed index card system can prevent needless cursing and whimpering.

If I ever develop one, I shall market the idea and probably get rich.

In lieu of such a system, I skim my entire collection over and over until I've memorized where everything is. It's fun—like browsing through an old photo album—and it keeps my literature dusted. Even if I forget where "Quail and Pheasant Propagation" is hid, I remind myself that a true hunter enjoys the hunt because of his surroundings and need not bag game or pamphlet to experience satisfaction.

Sources of Wildlife Information

U. S. Government. Write to the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, and ask to be placed on the mailing list for "Selected U. S. Government Publications."

State departments of conservation. For addresses, I suggest you purchase the "Conservation Directory," available from the National Wildlife Federation, 1412 16th Street, N. W., Washington, D. C. 20036. Price, \$2.

The Wildlife Society, Suite S-176, 3900 Wisconsin Ave., N. W., Washington, D. C. 20016.

The National Wildlife Federation, 1412 16th Street, N.W., Washington, D. C. 20036.

Wildlife Management Institute, 709 Wire Building, Washington, D. C. 20005.

Field and Stream Book Club, 511 Federal St., Marion, Ohio 43302.

Outdoor Life Book Club, 44 Hillside Ave., Manhasset, N. Y. 11030.

The American Rod and Gun Club, Dept. 969, Garden City, N. Y. 11530.

Crown Publishers, Inc., 419 Park Ave. S., New York, N. Y. 10016.

Freshet Press, 90 Hamilton Rd., Rockville Centre, N. Y. 11571.

Remington Sportsmen's Library, P. O. Box 731, Bridgeport, Conn. 06601.

Stackpole Books, Cameron and Kelker Sts., Harrisburg, Pa. 17105.

Winchester Press, 460 Park Ave., New York, N. Y. 10022.

PENNSYLVANIA 1776

Except in extreme cases where attention was directed to an animal because it was strange, dangerous, or hard to understand, eighteenth-century Pennsylvania commentators usually responded to animals in proportion to their practical significance. Among birds, those most frequently mentioned

The passenger pigeon, certainly once one of Pennsylvania's most conspicuous birds, was a wonderful example of a species inherently destined for extinction. How there ever came to be so many, no one knows. The estimate of 17 million bushels of mast per day as food for one flock of maybe 2 billion birds

Birds in Colonial Pennsylvania

By George H. Beatty

in early journals and travel accounts were species of high value for food: ducks, geese, quail, grouse (now the official state bird), heath hen, turkey, and passenger pigeon. Ducks, geese, quail (then called "partridge"), and ruffed grouse (usually called "pheasant"—long before the ring-neck pheasant was imported as a game bird) were terribly reduced by overhunting, but they managed to escape statewide extermination.

The wild turkey, abundant enough so that the "Flying Hills" near Reading were named for the large numbers of turkeys that flew down from them, was hunted to extermination in Pennsylvania, probably more than once. The native turkey, frequently seen near Philadelphia in 1748, was, Kalm said, almost a dooryard bird, interbreeding with domestic turkeys (turkeys originally domesticated in Mexico, then introduced to the Old World, acquiring further breeding and refinement there, and finally returned by later colonists, quite different from their native counterparts).

The heath hen (or heath cock) was a different matter. Not widespread, even in early colonial times, the eastern population of the prairie chicken was later confined to a few northeastern counties, where it was heavily hunted for market and soon wiped out. Surviving longer in New England, another subspecies, the true heath hen, was totally extinct by about 1930.

may be exaggerated, but the food volume would still run into the millions. Mast is notoriously unreliable; some years there is practically none over large areas, when late frosts keep oak and beech from bearing fruit. A combination of large areas of oak-beech-chestnut cut down for clearing and for timber, plus a few bad "mast years," plus inordinately heavy market hunting was, given the gregariousness of the birds, a sure formula for extinction. The prodigal market hunting alone could never have wiped out these countless billions of birds; they were slaughtered in such incredible numbers only because there were so many of them. Colonial Pennsylvania skies were sometimes darkened by flights of pigeons, though their chief territory was farther west.

Also extinct now is the Carolina parakeet. Although William Bartram, writing before 1790, did not cite it as a Pennsylvania bird, B.S. Barton, in 1799, did, and he got most of his information from Bartram. That this, the only native parrot of the eastern United States, once occurred in Pennsylvania is pretty certain, especially since there are records from farther north as well. These gregarious, gaudy yellow, green, and red parrots were conspicuous, and not readily confused with any other bird. Portraits of Indian princesses often show them with the parakeet perched on their shoulder.

William Bartram incorporated in his

Travels (1791) an extensive list of Pennsylvania birds, some 175 in number, including many of the birds familiar to Pennsylvanians today: bald eagle, great horned owl, screech owl, whippoorwill, ruby-throated hummingbird, pileated woodpecker, kingbird, barn swallow, purple martin, raven, crow, mockingbird, robin, and cardinal to name a few.

The ruby-throated hummingbird was, by all odds, the bird that excited the most admiration and wonder on the part of eighteenth-century Pennsylvania observers. Crèvecoeur was captivated by them: "nature has lavished her most splendid colors; the most perfect azure, the most beautiful gold, the most dazzling red . . . on this insect bird." Kalm describes the nest in detail, and also rhapsodizes on this jewel of bird life, which he calls "the most admirable of all the rare birds of North America," adding that the Swedes near Philadelphia call it the King's Bird. The genuine kingbird, a flycatcher, also comes in for its share of attention, and Crèvecoeur marvels at its fierceness and audacity toward hawks and crows, and its ravenous appetite for honeybees. He shot one that had been raiding his apiary, and upon opening its stomach found that 41 of the 171 bees it contained revived and flew back to the hive. Kalm found the purple martin equally audacious in repelling hawks and crows, and B.S. Barton, with William Bartram's concurrence, asserts that they are migratory birds, in contradiction of the then strongly held belief of numerous naturalists that they hibernate, buried in the mud. It has been reported that this bird, now always associated with dwellings man-made for his special use—from gourds to elaborate apartment houses on poles—was loved and honored by the Indians, who were the first to provide housing accommodations for him.

The mockingbird was a delight to eighteenth-century observers. Crèvecoeur rhapsodically describes the song and behavior of this talented vocalist, and Kalm, having encountered a caged mockingbird, relates the process of



PASSENGER
PIGEON

domesticating them, and goes on to state that "several people are . . . of the opinion that they are the best singing birds in the world." Alexander Wilson (1766–1813), finding mockingbirds peddled by a street vendor in Philadelphia ("good singers, \$50–100; average, \$7–15"), was inspired to write the famous mockingbird essay in his *American Ornithology*. The robin also pleased early Pennsylvanians with its friendliness and melodic song. The "red thrushes" praised by Crèvecoeur were none other than our easy-going robin. Equally popular was the cardinal. Under the name of "Baltimore Bird" he is said to have been the favorite pet of colonial bird fanciers—trapped and sent to market in hampers. Kalm relates dismal tales of trapping and sending them in cages to England where, like mockingbirds so treated, they either sang or died.

—From *Pennsylvania 1776*, 380 pp., 522 illus., December 1975, \$15.00; copyright 1975 by The Pennsylvania State University Press, University Park, Pa. 16802.



was the victim of a setup, but not sure what it was. Being a beginner at long-distance shooting, I was a bit awed in the presence of my two fellow hunters, and not my usual talkative self. Now, I began to recall how I had gotten involved in this situation. It had started the previous spring.

"Never will group under an inch," Bob had said as I carried my new varmint rifle to the shooting bench. He looked it over as I went for the remainder of the bench rest gear. Once the stuff was set up and targets tacked at 100 yards, I was ready to make him eat his words. Though he'd had many years of experience, I wasn't too impressed with his words and was cocky enough to try to prove him wrong.

As I arranged the sandbags on the bench, Bob examined my ammo. "Not even handloaded stuff," he said. "Ever fire that little thing before?"

THE 427-YD. WOODCHUCK

By Ted Them

"IT'S A miss," said the Old Pro, as I followed up the recoil, getting the scope back on target. Sure enough, the chuck still crouched near his den. But even as I watched, it tumbled downhill.

"It's a hit!" Bigfoot chortled. "I knew he could do it."

The Old Pro lowered his binoculars. "Nothin' doing, the impact was low and left. I saw it hit where the chuck wasn't."

Bigfoot sauntered over to our companion, draped a huge arm around his shoulder, looked him in the eye, and said, "Now, Bob, how can you say that? We all saw the critter drop, and only one shot was fired."

"Don't care," the OP said, "I know what I saw, and I saw a miss."

"Come on, then, we'll go have a look at that dead chuck."

Meanwhile, I sat where I was, shaking my head at the exchange of words. Reflecting on the last few minutes, I began to have a small suspicion that I

I had to admit that the rifle was just out of the box and that the scope had been mounted that day. Even so, I was proud of the heavy-barreled bolt action M700 Remington. And, having read about the performance of its 6mm chambering, I fairly exuded confidence. "How can you tell me it won't shoot," I asked, "when all the other gun experts say this outfit is really tops."

"Go ahead and shoot and then we'll talk about it," he replied.

After looking down the bore and fiddling with the scope adjustments, I pronounced the rig boresighted. "Looks good to me, so I'll just put the bolt back in and try a locator," I said.

I plumped up the sandbags, settled the varmint on them, lined up the crosshairs on the bull, and tried the trigger pull on an empty chamber. The "click" sounded, and I mentally figured the pull at about three pounds. The 12x setting of the 4-12 variable scope made the target really stand out.

Okay so far, I thought. Now to try it

with a live one. The sub-quarter-inch bullet zipped downrange as the 6mm barked out its first shot.

I noted a hole in the target backer, low and right; not bad for a locator. Lining the scope back up on the target, I adjusted the crosshairs on the bullet hole as I held the gun down in the rests.

"Come on, get that thing going," Bob said, "It looks like rain."

"Hold on," I said. "This scope does things to my weak old eyes."

"So turn it back to a lower power and see if that helps any," he shot back. Back to 8x, and a quick check of the adjustable front bell to be sure it was set at 100 yards, and the scope acted better.

"Try a group of three, so's we can see how it looks on paper," Bob suggested.

Some Serious Shooting

Good enough, I figured, putting three shiny new cartridges in the magazine. "Got to make sure the action works," I said, "because I plan to do some serious shooting with this outfit when I get it working right."

Finally the rifle went bang three times; the expert peered through the spotting scope and said, "Three o'clock high, one-and-a-half minutes. Gotta do better'n that if you want to connect at longer ranges. Maybe I'd better try it." He made a correction on the scope and put a fresh group into another target. It checked in at just over an inch, and he told me that was as good as the little 6mm would ever do.

Undaunted, I said, "Give me a few weeks to work up a load for this baby, and I'll show you!"

That's how it started. I went on to find a load which really suited that barrel and proceeded to shoot some mighty tight groups on paper, some of them half-inch or slightly smaller. The hollow-point bullet I used was effective on woodchucks, and I was learning to extend my shooting range. Every time I saw Bob, I bragged about the way I was shooting, showing him my best target groups. And, I'd tell him about the progressively longer shots I was taking.

"You keep on braggin' that outfit up," Bob would say, "and someday you'll have to show me instead of just talking about it."

He called me one morning to set up a chuck hunting expedition for that afternoon. I was ready and waiting as he pulled up in his small car, and I could see he had a passenger. As a 6-foot-plus type extricated himself from the front seat, Bob brushed off my remark about the half-a-car he was driving.

"This is Jim," Bob said, "but he's better known as 'Bigfoot'."

The tall one seemed cordial, saying "Well now, Bob, since you're the leader of the troops, you qualify as the 'Old Professional Hunter'—so lead the way."

As we drove away, I asked where we were headed and got an offhand reply about just poking around until we found a likely groundhog. Not seeing any other rifles, I inquired what the other two were going to use, and got some more evasion. Seems that they had one handgun—a 357 Magnum—and two pairs of binoculars between them. Odd, I thought, I'm the only one really equipped. We drove along a back road, passed a likely hayfield, recently mowed. I was all for disembarking and starting our hunt, but they said not yet. In a little while, we pulled off the road and parked near some woods.



CAMERA TRIPOD with padded "U" makes fine adjustable rest for Redfield-scoped M700 Remington 6mm, Them's favorite outfit for distant chucks.



DIANE DAVIS displays woodchuck taken by author at long range while warming up for his Perry County debut with the Old Pro and Bigfoot.

As we walked to the edge of the woods, Bigfoot drawled, "This looks like a prime location. See how the land slopes up and away?" We glassed the whole field carefully. Seeing nothing, I said I'd walk over a rise farther down the road and look over the next field. When I topped the rise and glassed the open field . . . still nothing. As I sat waiting for a chuck to show, a big blacksnake stirred nearby and looked right at me. I ignored it, and it did the same for me. After awhile, I got up to move on, and the snake took off too. I had nothing better to do, so I gave that big snake fits by cutting off its escape wherever it headed. I debated making a hatband out of it, then thought better of it and watched it disappear in a weed patch. Just then, the Old Pro yelled for me to come back, saying they'd spotted a woodchuck too far away for a handgun.

I hurried back and was soon setting up my long-range tripod shooting rest, still not figuring that anything was awry. As I located the chuck, I could see a breeze moving the grass one way at about 200 yards, and another way at

about 350 yards, and the heat mirage was doing things farther out. Tough shot, I thought, and here I am with the only rifle and two accomplished shooters watching my every move. Well, it was time to put-up or shut-up! All three of us tensed as I squeezed off the shot, which takes us back to the opening of this epistle.

As we walked up the hill to check out the dead chuck which the Old Pro said I'd missed, I said nothing. The others were taking both sides of the story, leaving me no chance to butt in. When we got to the chuck's den, there he lay—about eight feet from his entrance and not moving.

"There, see that! That's a chuck, and the same one Ted shot at," said Bigfoot. "Any comments now, Bob?"

"Can't see any holes in it," Bob replied, "and I won't talk until I get a closer look."

We moved in on the chuck, and I watched as the Old Pro stooped to roll it over. Looking around, I could see the den hole at the back of a huge slab of shale. From his perch on the edge of the shale, the chuck could have kept watch over almost a complete circle. A perfect setup, which had served the animal well, as its appearance indicated it was no longer a youngster.

Heard a Shot

The Old Pro was still investigating when I said, "If you guys don't mind, I'll pace off the distance back to my shooting gear, just to see how far it was." Bigfoot said this was a fine idea and that he would join me. We started walking, and I counted each long step down the incline. The OP was still nosing around as we left. Halfway down I heard a shot and, looking back, saw Bob with 357 in hand. He waved us on, shouting, "Tell you about it when I come on down."

As I totalled up the yardage, I went over the chain of events in my mind. I recalled asking Bigfoot what he thought the distance was before I shot. He'd said it was over 400 yards. Then I'd set up the tripod, settled into position and chambered one of my handloads. I'd looked through the scope, picked up the chuck, turned to Bigfoot and asked,

"How much over 400 yards? There's a good crosswind going through up there, and that critter is not standing up."

I recalled that Bigfoot had grinned and replied, "Exactly 427 yards, and now you're on your own!"

I was still reliving the incident when I finished my yardage count. "I saw where the shot hit, and it was about seven inches low, and 15 inches to the left," I said to Bigfoot. "You know, there was a fresh cut on the edge of that shale slab."

"I saw that, too, but we won't admit a thing to the Old Pro. After all, we all saw the chuck fall over, and he can't deny that."

About then, the OP strolled up, and the look on his face was sort of funny. "Had to finish that chuck off," Bob said, patting his holster. "Looked him over real good and found a spot on his head that didn't look right. As I was handling him, the critter opened his eyes and started to get unfriendly. That's the shot you heard. Your hit was low and left, and must've shoved a chip of rock into his noggin, knocking him out."

That was the Old Pro's longest discourse for many a day, and it told me he was unhappy.

"Now, all of that doesn't matter, the deal was for Ted to shoot that chuck,

which he did, and we both agree on that," said Bigfoot. "We checked the kill, and left. The rest of it is your story, and you're stuck with it."

The entire argument seemed to be between the Old Pro and Bigfoot, which added to my confusion.

"Anyway, Ted can't claim that chuck. I know I wouldn't," said OP.

"I don't know how your mind works," Bigfoot retorted. "I heard one shot and saw one chuck, and that's good enough for me."

Neither had asked my opinion in the matter, and their conversation added more fuel to the fires of doubt. The big picture finally began to come into focus as I listened. We'd set out with no stated destination in mind stopped at only one spot after seeing nothing, I'd suggested moving on, but my guides wouldn't hear of it now the events were fitting together! These two had probably tried for that old chuck a few times themselves, with no success, and had set me up to test my mettle. I knew my theory was correct when big grins splashed all over their faces when I answered Bob's question: "You paced it off, Ted. What was your final count for that shot?"

Wouldn't you know it, my reply had to be, "Exactly 427 yards!"

Book Review

Bowhunting Big Game Records of North America

This book is the first to be published by the Pope & Young Club, the organization which serves bowhunters as the Boone & Crockett Club serves gunners. The club collects and maintains records pertaining to North American bowhunting trophies, holds displays and awards programs, and endeavors to create better understanding and appreciation of the sport of bowhunting as it relates to the management of this continent's wildlife. This book is the culmination of nine official big game scoring periods dating back to 1958. It gives a history of the Pope & Young Club, tells how to measure and enter trophies, lists minimum qualifying scores for all species, names official measurers, and gives complete tabulations of all bow trophies currently meeting the P&Y standards. There are some awfully impressive trophies here too: Fred Bear's Alaskan brown bear, score 28; Ray Mastel's 21-11/16 black bear; Harley Tison's 25-6/16 grizzly; Art Kragness's 446-6/8 Barren Ground caribou; M. J. Johnson's 204-4/8 whitetail, and Ronald Sniff's 197 mule deer, to name a few. An indispensable book for serious bowhunters. (*Bowhunting Big Game Records of North America*, M. R. James, editor, Pope & Young Club, 600 E. High St., Milton WI 53563, 307 pp., \$17.50.



Young c

DURING THE first six months of life, wildlife parents rear an array of young. These range in size from the tiny chickadee, which is no bigger than a pin at birth as much as an adult Emu. In some of Pennsylvania's wildlife, the parents are better equipped to rear it than you are. Such wild creatures in your pos





e Year

every year, Pennsylvania
umber and variety of young.
atched ruby-throated hum-
bean, to a calf elk weighing
er. Herewith are portraits of
If you come across one of
e it alone. The parents are
oreover, it is illegal to have



By Karl Maslowski





FIELD NOTES



Dogs and Deer

FOREST COUNTY—This year we had quite a few complaints of dogs running deer. I have made a few arrests as a result of dogs killing deer. The biggest problem we encounter in the spring are caused by dogs that were dropped off by persons who care nothing about the welfare of the deer or the dogs. You really can't blame the dogs for attempting to find food if they are starving, but too many times they are family pets just out for the chase. Please keep your dogs under control at all times, but most especially early in the year when the deer are carrying their young.—District Game Protector A. N. Pedder, Marienville.



Tough Timberdoodle

HUNTINGDON COUNTY—I believe the woodcock is one of our hardiest birds. Deputy Tom Wilson of McAlevy's Fort found one female sitting on her nest in March nearly covered by three inches of snow. She must have known it was the onion snow and wouldn't last too long. She kept her clutch of eggs warm and dry.—District Game Protector E. N. Gallew, Alexandria.

View From the Other Side

WASHINGTON COUNTY—This is the time of the year when many calls will be received about wildlife causing damage or problems to gardens, nesting in attics or under porches, and even knocking over garbage cans to get something to eat. Before we start to complain or threaten to shoot every four-legged mammal that walks across our property, let us each stop to think back through the past few months for a minute and search our conscience. Did I scatter my garbage in their backyard or around their home while out hiking or hunting? Did I destroy their home through my carelessness and piggish manners? Or, how about when I tore through fields with my four-wheel vehicle or trail bike, or when I went on a rampage with my snowmobile chasing deer and scaring every living creature in the woods. Was I as justified in doing this as the animals are in coming around my home and in my garden?—District Game Protector J. M. Kazakavage, Washington.

Training Begins at Home

BLAIR COUNTY—Recently a lady came into my office with information about a man who stood off a road and threw litter on State Game Lands. All the information necessary for prosecution was handed to me. The woman proceeded to explain how she followed the man to obtain the license number, then reversed her direction to pick up the evidence, which was down over a bank. Maybe I am convincing the public to get involved in such problems. At least I am with my wife.—District Game Protector D. D. Martin, Hollidaysburg.

The Problem Within

FRANKLIN COUNTY—The sport hunter must continue to combat the anti-hunting influences, but at the same time must become equally aware of a cancerous growth within the sport of hunting. The deterioration from within can be far more serious than effects from outside influences. While conducting programs in the elementary schools during National Wildlife Week, it came to my attention that a number of students were disillusioned with, turned off by, and were against the sport of hunting merely because of contact with hunting relatives who possessed poor attitudes towards hunting or believed in illegal hunting practices.—District Game Protector R. E. Schmuck, Greencastle.

Makes It All Worthwhile

During a patrol after picking up two roadkilled deer on the first day of the year, I drove to the public rifle range on State Game Lands 203, Allegheny County. Several young and several not so young persons were trying out their Christmas gifts—handguns and rifles. While talking to them I got to wondering where they would shoot if they didn't have access to this Game Commission rifle range. I asked one youngster, and he really didn't know. But then he stated, "I got this rifle because this range is here." My next thought was, "Money well spent."—Land Manager R. B. Belding, Baden.

Autos Show No Mercy

SUSQUEHANNA COUNTY—Among the roadkilled deer I picked up since the season were 7- and 9-year-old does each carrying twin embryos. That they were carrying twins indicates good health in spite of old age. I also picked up a doe which would have dropped triplets had she not walked in front of an automobile.—District Game Protector D. G. Day, Hallstead.



Renewable Resource

CRAWFORD COUNTY—Trapping season is over and quite a lot of fur was caught. Not all of it, though. Walking Conneaut Creek near Dixonburg, I saw two muskrats, one beaver and one mink in a stretch of about 1½ miles.—District Game Protector L. V. Haines, Linesville.

A Real Bunch!

SCHUYLKILL COUNTY—Spring migration is probably the best time of the year for watching waterfowl and brushing up on identification. During March I observed these 17 species of waterfowl at the Auburn Desilting Basin on the Schuylkill River: whistling swan, Canada geese, mallard and black ducks, baldpate, canvasback, ringneck duck, lesser and greater scaup, wood duck, oldsquaw, American goldeneye, bufflehead, hooded merganser, American Merganser, coots and grebes. Quite a wide variety, to say the least.—District Game Protector C. J. Harris, Pine Grove.

Bicentennial Pennsylvania

Traveled all day along the roads that followed the rivers, that drained the valleys, that divided the mountains, that settlers once crossed on their way to a place they would learn to love so they could rest in peace.—Trainee R. G. MacWilliams.



4/1/76

JUNIATA COUNTY—A local radio announcement said: "Seven fresh water dolphins have escaped from a marine aquarium in the Philadelphia area and have been seen swimming up the Susquehanna River. They have split up at the junction of the Susquehanna and the Juniata. Two went on up the Susquehanna and five are coming up the Juniata. Be on the lookout for same." Locally we had people standing on bridges, cars parked on outlooks and access areas, kids running around, binoculars in evidence, and everyone talking about dolphins. Then toward midday people began realizing what the day and date was. Nice way to celebrate April Fool's Day! The red flush to their faces was not sunburn.—District Game Protector R. P. Shaffer, Mifflintown.

Hard to Explain

NORTHAMPTON COUNTY—In March I had the opportunity to set up an exhibit at Palmer Park Mall in Easton in cooperation with the Stockertown Sportsmen Club and the Pennsylvania Fish Commission. Many non-hunters enjoyed seeing the exhibits and asked questions. Of the thousands of people passing through, only three were admitted anti-hunters—and the strange thing was, none of them could explain why!—District Game Protector R. W. Anderson, Nazareth.

Two Unusual Events

Land Manager Dave Sloan and I were recently checking the survival rate of some conifer plantings we had fenced in on State Game Lands 134 to prevent deer damage. As we were hiking into the area, we were surprised to see a pair of Canada geese standing together on a mountainside with the only water being a small mountain stream approximately one-quarter mile away. Then while checking the conifer trees, we observed the remains of a nice buck inside the fence. A closer look revealed a hole in the heavy woven wire fencing. Evidently the deer had been running very fast and hit the wire hard enough to go through and break its neck in the process.—Pittman-Robertson Area Leader D. E. Watson, Williamsport.

The Way to Go

VENANGO COUNTY—Ever since an article opposing trapping was published in one of our county newspapers, numerous "letters to the editors" were printed explaining the values of trapping and the trapping industry's contribution to a community, thus providing facts and basic knowledge to the misinformed.—District Game Protector L. C. Yahner, Franklin.

Young Friends

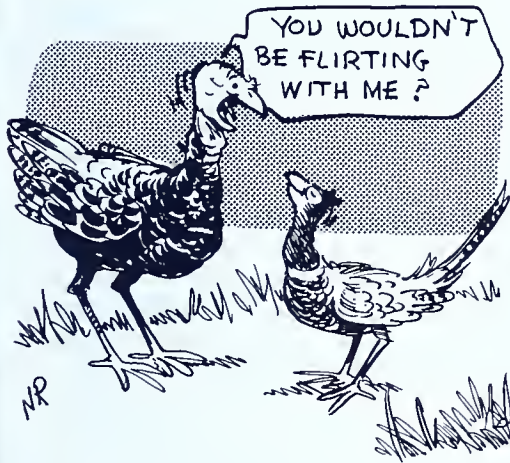
ERIE COUNTY—A visit to the Chestnut Street Elementary School at Fairview resulted in letters from the young students telling how they enjoyed the visit and film. A sampling follows: "Thank you for the film and I like the squirrels and mice and teeth and fox and I like it when the baby squirrels clume on each other." Another, "Thank you for coming to share those things (deer jaws and skulls). I like them very much but I did not see all things. I was at speech class at 1:25. I like you very much. I was in the long dress."—District Game Protector R. V. Meyer, Fairview.

Chilly Welcome

On March 8, I saw a bluebird sitting on top of a bluebird house, just north of Jackson Center, Mercer County. This is the earliest I have seen one and I am afraid he got a cold reception.—Land Manager D. W. Gross, Chapmanville.

Wildlife Weather-Casters

INDIANA COUNTY—On a balmy March day when the temperature reached nearly 70 degrees, I observed several deer out feeding in the middle of the afternoon. The songbirds also seemed extra busy, trying to stuff themselves with seeds. I watched a red-tailed hawk feeding on field mice until it was too dark for him to see. That night, just as the weatherman and the wildlife had predicted, the temperature tumbled. It snowed all the following day leaving some 4 - 6 inches on the ground.—District Game Protector J. E. Deniker, Homer City.



Lonely Hearts Club

TIOGA COUNTY—I recently received a phone call from a farmer who believed there was only one hen turkey and one ring-necked rooster left in his area. He insisted that the Game Commission should furnish a mate for each.—District Game Protector J. K. Weaver, Covington.

Nice to Hear

ALLEGHENY COUNTY—The nicest words spoken to me today came from an unknown man who walked up to me while I was eating my lunch in a diner. He said, "I don't hunt, but you guys are doing a great job. Keep up the good work." I guess that's the silver lining you always hear about but seldom see.—District Game Protector S. E. Lockerman, Pittsburgh.



High Assist

LUZERNE COUNTY—Upon answering a squirrel complaint in Kingston, I was surprised to learn how the squirrels got into the woman's attic. She told me they'd had no squirrel problem until the carpenters built a scaffold to work on the roof of the house. The men were not able to complete the job due to inclement weather, and while they were absent the squirrels were using the scaffold to climb into her attic.—District Game Protector E. R. Gdosky, Dallas.

The Long Way

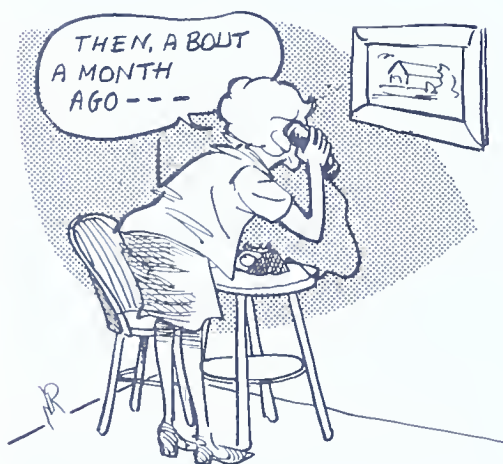
Whenever my paycheck fails to arrive on time, I always feel let down; but when I received the last one late and noticed it had been postmarked, the second time, from Kansas City, Missouri, I had to wonder if someone was trying to tell me something.—Conservation Information Assistant J. A. Badger, Ligonier.

Side Benefit

POTTER COUNTY—I have noticed a significant increase in raptors and owls in my district recently. I wonder how many people realize that it is the hunters' money that pays for the protection of these magnificent birds through the hunting licenses they buy?—District Game Protector R. G. Clouser, Galeton.

Lookin' Good

While traveling in the Buzzard Swamp Area, Akley Swamp and along the Allegheny River, I noticed more than the usual number of ducks and geese for this time of year. If this means anything, waterfowl hunting should be good this fall.—Land Manager D. C. Parr, Tidioute.



48 Hours Late

MERCER COUNTY—Late one Tuesday evening I received an excited call from a lady requesting me to contact some friends of hers immediately in regard to an illegally killed deer. As she explained it, five neighbors had gone out to try to apprehend the violators. She said the deer had been loaded in their vehicle while still alive. After getting all the details, I asked when the animal was killed. The reply was the evening of the Sunday before. Good information but a little too late.—District Game Protector B. K. Ray, Greenville.

Some Guys Never Learn!

ERIE/WARREN COUNTIES—While assisting Waterways Patrolman George Jones in stocking fish, he pulled over to wave the fish truck by and left his window down. The big truck came by and splashed mud all over us. Then, instead of rolling up the window immediately, he took time to wipe the mud off himself and—you guessed it—the next car to come by gave us another shot of mud.—District Game Protector G. E. Gibson, Corry.

Waiting Room

With graduation almost here, the lounge at the Training School is taking on a different atmosphere. What was, in the beginning, a room where the trainees seemed to relax—is now more like a maternity waiting room. The only difference being that conversation is not centered on the awaited birth, but rather on the location of a long-awaited career.—Trainee G. A. O'Hara.

One of His Better Days

What about the Trainee who carried his dress suit in his car for the first eight months of training and never wore it. Then, returning from a weekend leave without it, he remembered he was to appear in court on Tuesday. On Monday, after he had spend \$70 on a sport coat and trousers, he received word that the trial was postponed.—Trainee T. A. Marks.

How It Goes

BEDFORD COUNTY—In November, 1975, a pistol club for men was started by the Chestnut Ridge Sportsmen. The interest was good until about February of 1976. At that time a class was started for women. It looked to me like the men did not like being outshot by the women.—District Game Protector B. L. Warner, Manns Choice.

CONSERVATION NEWS



By Ted Godshall



TED CALDWELL



RON McNAUGHTON



TERRY MURPHEY

1975 Wildlife Conservation Awards

FOR THE FOURTH straight year, Ron McNaughton of Derry Area School, Westmoreland County, won the FFA Wildlife Habitat Development contest. McNaughton's program was further honored when he was named the national fish and wildlife proficiency award winner of the United States at the national FFA convention in Kansas City last fall. Ted Caldwell, also a student at the Derry Area School, was the second-place winner. This was Caldwell's first complete year of project work. Third place went to Terry Murphey, Kennard-Dale School, York County, who also finished in third place last year.

In the Game Commission's six field divisions, the 1975 winners were: Northwest—Douglas Lee Dick, Grove City Area School. Southwest—Jeff Pierce, United School; Tom Krepulka, Somerset Area Vo-Tech; Kan Lahr, North Star-Boxwell. Northcentral—Garry Shirey, Harry Reitmyer and Ron Hoover, all of Clearfield School.

Southcentral—Dave Hook, Middleburg School, and David Mattas, Bedford School; Northeast—Tim Bennett, Wayne Manahan and Bill Gernert, all of Troy School; Southeast—Michael Hartman and Robin Gruff, Garden Spot School, and James Stolz, of Conrad Weiser.

The Pennsylvania Game Commission and the Pennsylvania Department of Public Instruction co-sponsor this competition. It is open to any vocational-agricultural student in the state. Students set up work plans in land management, predator control, conservation education, marsh and stream development, firearms safety, etc. These plans must be approved by the student's Vo-Ag area advisor and teacher and the local game protector. Game Commission representatives and Department of Public Instruction personnel inspect the projects. Judging is done by comparing the area with photos taken before work started. Prize money of \$1000 is divided among the winners.

Trappers Record Best Year



PGC Photo by J. E. Osman
JOE DAVIS'S large beaver pelt is sealed by DGP Fred Weigelt during fur auction at Honesdale Armory in March.

DURING the 1974-75 marketing year, licensed raw fur dealers paid Pennsylvania trappers \$2,864,703.50 for pelts taken in the state. That is the largest amount ever paid for furs in the Keystone State.

Dealers bought 494,272 muskrats last year for \$1,264,499.24, an average of \$2.56 per hide. Next on the value list were the 148,123 raccoons, which brought \$1,076,841.09, an average of

\$7.27 each, and 11,114 red foxes returned \$203,941.85 to trappers, an average of \$18.35 per pelt. Following were 11,401 gray foxes which were bought for \$115,061.06, an average of \$10.09 per hide.

Numbers of other species taken and their fur values were: 76,776 opossums, \$110,701.66, average \$1.44; 3130 beavers, \$46,001.44, \$14.70; 5625 minks, \$39,633.36, \$7.05; 4898 skunks, \$7,169.79, \$1.46, 1764 weasels, \$854.01, 48 cents.

The figures represent only Pennsylvania-caught furs bought by Pennsylvania licensed raw fur dealers. Furs shipped or transported out of state by the trapper or held for his own use are not included in the tabulations.

Prior to the 1974-75 marketing year, the record prices paid for Pennsylvania furs were established in 1973-74, when Keystone pelts brought trappers \$2,683,200.33, and in pre-Depression 1926-27, when returns for the state's furs totaled \$2,231,906.65.

Only two furs showed an increase in price during the 1974-75 marketing year, compared to the preceding year. Muskrat pelts averaged fourteen cents higher in value last year than in 1973-74, and raccoon hides brought four cents more on the average than during the preceding year.

Declines in the average price paid per pelt in other categories follow: skunks, 14 cents; minks, \$3.98; opossums, 19 cents; beavers, \$2.87; weasels, 13 cents; red foxes, \$5.50; and gray foxes, \$3.01.

Game Commission Thanks Contributors

The Game Commission wishes to thank those individuals and organizations who have generously donated money to the Game Fund. These concerned citizens have certainly done their part for conservation in Pennsylvania. The Commission is permitted to accept donations from any person, association, corporation or firm. Contributions go toward purchasing public hunting lands, which can be used by hunter and non-hunter alike, and for other wildlife management uses.

THE OTHER GUY

By William T. Hagan

WHO AM I? I'm the other guy. The guy who doesn't know all the tricks of the trade. The guy who misses more than he hits. The guy who sneezes when the big buck is driven past his stand.

You know me; I'm Fred's brother-in-law, Larry's new neighbor. The guy who doesn't have all the answers, the guy who doesn't *really* know what a deer tail looks like, who never thinks until afterwards which way the wind was blowing. The guy who, when it starts to rain, figures it will just be a short shower and doesn't bother to put on the rain suit in his knapsack (when he remembers he has it) until he is totally soaked and then spends the rest of the day hanging his sodden gunning clothes in front of the old pot-bellied back in camp.

The guy who shows up with his brand new 30-06 and a pocketful of cartridges that went with his old 30-30. The guy who has the bird dog that wouldn't point the opening day. You remember, the one who left his lunch in the car along with his survival kit the time we were lost. The one who got the splitting headache and went back to the truck just before the rest of you guys went through the big field where all the pheasants were.

The guy who gets his car stuck sometime, somewhere (usually somewhere inaccessible) during the season. The guy who drags a beautiful log back to the campfire, only to find it's green. The guy who is so out of shape that he is in real fear of a coronary, but would still rather be here doing what he's doing than anyplace else in the world. The guy who just can't seem to scrape up the greenbacks for the four wheel-drive he wants so badly—because he won't work the overtime and goes out hunting instead.

But I'm also the other guy who considers it a day well spent when all I've done is take my pet double barrel



YOU KNOW ME—the guy who, when it starts to rain, figures it will be just a shower and doesn't bother to put on his rain suit until he's totally soaked, the guy who . . .

for a walk in the woods. The guy who always takes three apples out to the deer stand, one for himself and two to leave for the deer. The guy who is thrilled just to see a pheasant flush, to see and hear a vee of geese heading whichever way that instinct, that we will never know about, leads them.

The guy who takes out the dog he's lied about all year and who really believes it will do just what he's been saying. The guy who loves sitting before a good wood fire (after somebody else builds it from one match). The guy who stands awed in front of somebody else's collection of guns. The guy who thinks food cooked over an



open fire is about the best fare your body can be nourished with. The guy who cries real tears over a deer that has been shot and can't be found.

The guy whose first thought at the word sport *isn't* football or hockey but a crisp clear fall day with a good dog and a good gun. The other guy whose name is on the tip of your tongue but which you can't remember, who thinks it is a privilege just to be where the game is—never mind that he doesn't get any—and with a group of sportsmen who love dogs, deer, birds and ducks, who think that a fire at day's end is what everything is all about. The guy who feels closer to God while sitting on a misty hillside waiting for that first responding gobble than he does in a centuries-old European cathedral.

You remember me. I'm the other guy. The guy who is really a lot like you.

Built-In Purifier?

Gorillas are strict vegetarians. They rarely drink, getting most of the moisture they need from their food. When they do have occasion to drink, they soak the fur on the back of the hand and then suck the water from it.

A Bend in the End

Scorpion flies are so called because the tail end of the male is turned back over the body like the tail of a scorpion.

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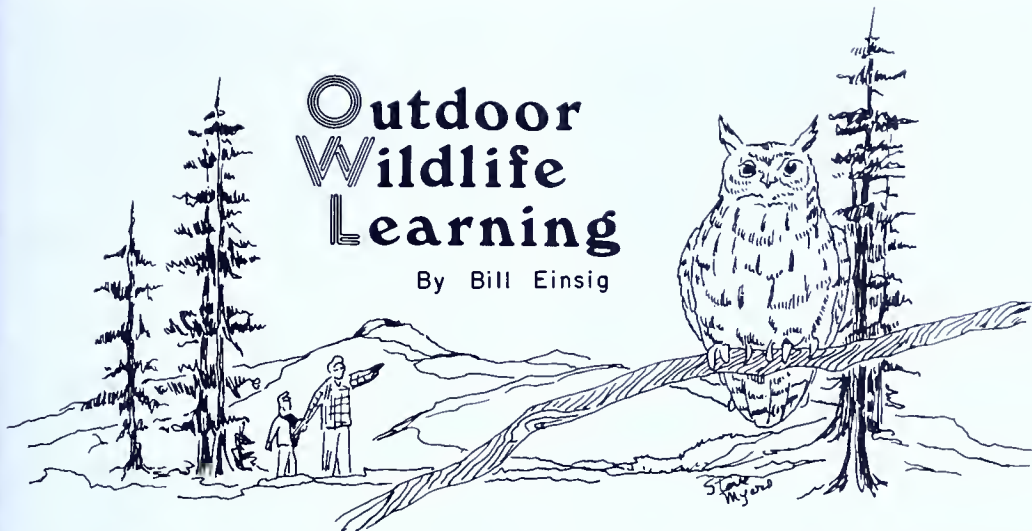
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Outdoor Wildlife Learning

By Bill Einsig



Should We Hunt?

Hunting has become an issue. In classrooms, living rooms and conference rooms, people who have become aware of wildlife have also begun to question the propriety of the hunting ethic. Depending on one's perspective, hunting is either brutal or humane; callous or perceptive. Ironically, proponents of both sides have a common goal—conservation of wildlife—but that real issue is often lost in over-generalizations and unsupportable arguments.

Young people are not alone in their curiosity about wildlife, nor in their zeal to protect it. They are easily involved in discussing the value of hunting as a sport. They often have strong feelings about the issue that correspond closely to the attitudes of their parents and home life. That's good. What is not so good is their frequent lack of sound reasoning and real understanding of the hunting issue.

There are many aspects to the debate, but two basic observations should be emphasized. First, the decision to participate or not in sport hunting is a personal choice. Just as hunters should not be made to feel guilty, non-hunters should not be made to feel they somehow fail to measure up. Second, sport hunting is no threat to the continued survival of any animal species. Like a nervous boxer guarding against a left jab while an unseen right hook puts him on the canvas, hunter and non-hunter waste valuable time and money arguing about the hunting issue while the real threat, the loss of wildlife habitat, continues faster than ever.

The National Wildlife Federation has published a pamphlet entitled "Should We Hunt?" that amounts to a position paper

for the organization. It is an excellent summary of the issue from the vantage point of a noncommitted observer. Sportsmen's organizations should be sure their schools have plenty of copies. For your copy, request it by title from National Wildlife Federation, 1412 16th Street, N.W., Washington, D.C., 20036.

Skull Key

Several months ago OWL discussed the possibility of collecting skulls as a project for school classes or for personal study. If you plan to start such a collection or have some already, you might be interested in a "Skull Key to Mammal Orders." This dichotomous key has five pages of skull drawings covering the seven orders of mammals common to our area. In addition to being an aid to identification, the key is a convenient introduction to all such keys. After working with this simple aid, most students should be able to use similar keys for flowers, insects, trees, and so forth. Request a copy from Terry D. Rader, Urban Forest Wildlife Specialist, III, Ferguson Building, University Park, PA, 16802.

Also, when you write, ask to be put on the mailing list for *Pennsylvania Forest Resources*. This monthly series deals with various aspects of the forest from woodcock and rattlesnakes to succession and management. Not only is the series informative but it is also interesting reading as well.

Info. on Spirits

The J. Weston Walch Co. is offering practical information in a very practical



YOUNGSTERS SUCH as Tom Knowles, 12, of Osceola Mills, shown with his fine 8-point, instinctively know that sport hunting is worthwhile.

format. They have published a series of environmental education readings and activities on spirit masters ready to be run off on your duplicating machine. This idea solves a major problem for teachers who have good sources of information but find it difficult to put them to use in class. Generally the material must be retyped, photocopied or photocopied onto a duplicating master. Retyping takes time, photocopies are expensive in the quantities needed, and photocopied masters usually lack quality, especially when the original type is small. Why not put the information on a master to begin with, save shipping charges and teacher preparation time? Good idea J. Weston Walch!

David Newton is the author of the activities which span a broad range of topics applicable to an environmental education course. Rather than technical

exercises, the activities present studies that the student can work with for an hour, a week, or even as a long-term project. Most activities can be modified for upper elementary through secondary levels and would serve best as a supplement to an existing course of study.

For further information, contact J. Weston Walch, Publisher, Box 658 Portland, ME 04104.

Simulation Activity

"Environmental Issues - A Courtroom Simulation" is a two-week activity that simulates a court case dealing with a local environmental issue. Participants play the roles of plaintiff and defendant, jury and special interest groups. A number of sample laws and defenses are provided, along with a complete time schedule for the two-hour trial that climaxes the activity.

There is much more of value in this kind of unit than might appear. First, court procedures in general are unfamiliar to most of us. Taking part in this simulation should give all participants and observers a better insight into their real legal system. Second, ultimate decisions regarding environmental problems usually result from court action. It would be good to see more environmental education studies carried further than simple awareness. If we make people aware of a problem without pointing the way to possible solutions and consequences, we run the risk of creating more frustration and more apathy. Third, the courtroom debate emphasizes the many facets of an environmental issue. Here, as in no other situation, it is possible to view the economic, social and scientific aspects of environmental problems and their solutions.

For your free copy of this activity, request it by title from: Environmental Education Co-ordinator, Bureau of Land Management 220, U.S. Dept. of the Interior, Washington, D.C., 20240.

Any Ideas???

OWL welcomes your comments and looks forward to sharing your ideas with its readers. All correspondence should be mailed to: Bill Einsig, 1912 Karyl Lane, York, PA 17404.

Good Guy Bumper Stickers

Pro-gun bumper stickers of various sizes, colors and slogans are available from Sun Distributors, P.O. Box 96, Whitefish, Mont. 59937.

WOODLAND THOUGHTS

BY LOU HOFFMAN

Wildlife Education Specialist



Another month and it will be here—and gone. The historic event we prepare to salute in July will itself become history, and we will go on. The build-up has been tremendous, and rightfully so 'cause a nation just doesn't celebrate a Bicentennial very often. Matter of fact, it's kind of unique. Actually, though, 1776 was not the true beginning of this nation. That year merely represents an official benchmark. In fact, the men and women who forged this country out of an untamed continent were on the scene much earlier. The John Smiths, the Daniel Boones, and many more made countless contributions before 1776. Contributions that made 1776 and 1976 possible.

But most of us have trouble trying to verify facts of a mere hundred years ago, much less two hundred or more, and we are losing an important part of the Bicentennial celebration. For there's a big place in all this remember-

ing for the hunter, the trapper and the pioneering woodsman. These guys made it all happen and we owe it to them to remember. Without them, there would be no United States.

How we remember yesterday may vary, but an obvious way is through experiences we share today that were a way of life back then. Our pioneers didn't go to shopping malls or amusement parks. No museums or theaters were there either. They missed a lot—or did they? One thing is sure—they hunted. And that is one of our strongest ties to the whole celebration. It's strange that such a relevant tie with the past should be challenged so greatly during the year when we are all stopping to remember. But that phenomenon is typical of the changing times, and it shows why the outdoorsman must fight now, as he always has, to preserve a lifestyle so symbolic of a democracy.

THE TRANSITIONAL link to our country's past is symbolized today by the hues of our flag. Combinations of reds, whites and blues are everywhere. Exteriorly, buses, billboards, trains and fire hydrants are patriotically wrapped. Interiors display wallpapers, draperies, paintings, napkins and an endless array of spirited decorations. "Two-hundred years ago" is a commonplace phrase. That's where we are today.

But looking back to the real settlers, it's unfortunate to note that the tools

necessary for their very survival—the gun, the knife, the ax and others—today, in the minds of many, sadly connote evil and violence. These very tools truly symbolize the Spirit of '76. Of course, we now use those tools somewhat differently. They signify a different spirit. A spirit that is acted out, not for need of meat or survival, but for a "need," period. There is a cultural need to hunt in 1976.

The tools that enabled the pioneer to overcome his adversaries and a some-



GRANDPA JOHN GODFREY and his buck. The reduction of this deer to venison was not a material need for him—but there was another need, a very real one.

times hostile environment now help us to understand his role in the overall scheme. They help us to focus on and understand his problems. Today's conservationists possess less than ever before. Yet we should not see the actions of our pioneering forefathers as being based on greed. Unfortunately, too many condemn our ancestors for greediness. Today, people sitting on duffs of comfort (handed down by the very "savages" they belittle) academically criticize in a destructive way. Let's not forget the discomforts and the agony our ancestors encountered. There were times when a gun or a knife or a trap, used properly, meant survival—or, when used ineptly, meant death. And learning when or how to use these tools didn't come from a book. Because of ancestors such as these, we have the opportunity to celebrate a Bicentennial.

Still, we probably should go back even further and not neglect the true beginning of the story which smolders at places like the Meadowcroft Rock

Shelter, where recently unearthed evidence shows how primeval hunters set the real stage. Here, the most ancient hunters of North America spawned the Indian lore that has been handed to us, the lore that is still alive in every 12-year-old today. And it's to our advantage to keep that fire burning.

Yes, this is a timely year to look for personal links to the past. I'm not talking about run-of-the-mill antiques sparred out of a battling farm sale. Don't get me wrong. Those old-time things are nice and add a great deal of charm to any home, but I'm referring to more personal items. Those used by a father, or a grandfather, or maybe even a great-grandfather. Links to the past that mean something to you. There's a great deal of satisfaction in knowing you've got your grandfather's pocket-knife or maybe his old 22. These are the bridges that connect the past with the present—the heritage we are lauding this Bicentennial year.

Too often the hand-me-down heritage associated with the settling of the wilderness is diluted by gadgetry. We seek to reenact the ventures of Boone and Crockett and all the rest, but settle for the synthetics of the '70s. That's sad because there is a limit beyond which money-bought aids to the past destroy the cultural value of that time. Telescopic sights and plastic decoys aren't any more of a cultural link to hunting than a nylon flag or a cassette tape of our national anthem is to our Nation's birthday. It's the gut feelings about these events that generate pride in our country and her past.

Living Heritage

I feel strongly about hunting and believe that, as an activity, it is a living part of our heritage. It complements this year's celebration in a natural sort of way, and represents one of the few things that link us to the man-earth drama shared by our forefathers.

Last December I experienced one of those links with the past and I'd like to share it with you. The day before the buck season, my grandfather, my uncle and I were walking back a logging road in southern Potter County. We were

primarily scouting stands for the next day but mostly just talking . . . and for me mostly listening. Grandpa reminisced a lot, and though I had heard it all before, the woodsy surroundings made it fresh. It was the most enjoyable pre-season day I've ever spent.

The next morning I was off a little earlier than the rest, and spent the day pursuing, unsuccessfully, Mr. White-tail. Throughout the day there was the usual shooting, some close by, and I hoped my grandfather was doing some of it. Returning to the cabin that night, I found he had indeed been involved in the shooting. He had a buck. I don't think I ever felt so good about someone else's luck. The reduction of that deer to venison was not a material need for Grandpa. He would certainly eat the meat, but he wasn't dependent upon it. There was another need there, though, and it was a very real one. He needed to experience the hunt, even now in his twilight years. It was a joyful occasion.

Those happenings enforced my thoughts, not only about hunting but also about the relevance of the past as well. Standing there, reliving the day with an 81-year old boy, in the heart of Pennsylvania's wildest country, was beautiful. He was as excited as I was fourteen years earlier when he showed me my first pheasant. A bit younger than a century, he is the living evidence that helps me to look back. He is that spirit that we're trying to capture now with reds, whites and blues. Thanks, Grandpa.



HUNTING IS A living heritage for Americans, one that ties them directly to the past, and items such as these old licenses and Game Law booklets are tangible mementos of a time long ago.

Yeah, his pocketknife and his old 22 mean a lot to me. They're the kinds of things the real hunter hunts, the personal links to the past that add so much to the hunt of today. During this Bicentennial year, we owe a lot to our early hunters. Those that hunted before Grandpa was born. We don't even know the names of most of them, but they were there. The Bicentennial is an important event in the history of our nation, and the hunter has played an important role in this country for more than 200 years. Don't forget him, and be ever mindful that we will be he, in another 100 years.

Four Categories of Outdoors Men

"There are four categories of outdoors men: deer hunters, duck hunters, bird hunters and non-hunters. These categories have nothing to do with sex or age, or accoutrements; they represent four diverse habits of the human eye. The deer hunter habitually watches the next bend; the duck hunter watches the skyline; the bird hunter watches the dog; the non-hunter does not watch."

—Aldo Leopold in *A Sand County Almanac*

Your Master Eye

By Susan M. Pajak



SIGHTING THROUGH a small hole in a napkin is an easy way to determine which eye is the master—a fact that can be important in shooting.

JUST IN CASE some readers do not know how to determine which is their master eye—a fact important to shooting—a short technique is now offered.

Take a paper napkin and tear an inch-wide hole from the center. Holding the paper at arm's length, with both eyes open look through the hole at a small object across the room. Now shut your left eye. Is the object still in the hole? Open both eyes again and, still looking at the object through the hole, close your right eye. Did the hole jump to the right?

If your answer to these two questions is yes, your right eye is your master eye. If you shoot right-handed you should have no trouble aiming with both eyes open—a decided advantage

as this gives better depth perception and a larger field of view.

Follow the same procedure for the left eye if you think your left eye is your master eye.

If you are right-handed and your right eye is your master eye, or you are left-handed and “left-eyed,” I can imagine no valid reason for closing one eye to shoot. Many thousands of people probably aim this way because early in their shooting lives someone who didn't know much about the subject told them to “shut one eye to see better.” Actually, this makes things more difficult. It causes strain and is tiring, especially when long strings of shots are being fired, as in competitive matches. This of course leads to inaccuracy—the last thing a shooter wants.

If you now shoot with one eye closed, training yourself to keep both open will probably improve your hitting. The fact which those early “advisers” overlooked is that the stronger, or master, eye will always dominate the job of aiming.

Dear Mrs. Pajak

For the second part of this month's offering, the following is for the lady whose Lab ate the soap. It is a letter, slightly shortened, from Robert G. Little, Jr., DVM, Little's Veterinary Hospital in Williamsport:

“Dear Mrs. Pajak: You are correct in your assumption that many soaps contain chemicals that are lethal if ingested in sufficient quantity. The most severe of these found in soap is hexachlorophene (HCP), a chlorinated hydrocarbon. This product will produce a myriad of symptoms varying from vomiting, diarrhea, hypersalivation, and hyperexcitability to convulsive seizures and death in 5 - 24 hours. The variability of symptoms is dependent upon the HCP ingested. The lethal dosage required for a 20-lb. dog is equivalent to approximately one-half

GIRLS, GUNS, & GAME...

of a 5-oz. bar of soap containing HCP.

"A specific antidote for HCP poisoning is not known. Good, practical advice for your readers is to advise that when they see their pet ingest any kind of soap, they immediately institute vomiting. This can be done by the

administration of a tablespoon or two of hydrogen peroxide, or give a cup of warm mustard water. If unsuccessful, the dog should be taken to a veterinarian at once as a stomach lavage must be given immediately.

"Dogs rarely eat soap of free choice. They may gulp a bar of soap as many do their food, for dogs do not masticate food as we do."

Sincere thanks to Dr. Little for this most valuable information.

This column welcomes hints, tips or suggestions on recipes, around-the-house or camp notes, energy and money savers, et al.

Recipe: In a small skillet stir-fry slices of fresh mushrooms and a small garden zucchini in two tablespoons butter, adding a touch of salt, pepper and celery salt. Eat at once.

Books in Brief . . .

(Order from publisher, not from Game Commission)

Woodland Ecology, Environmental Forestry for the Small Owner, by Leon S. Minckler, Syracuse University Press, Box 8, University Sta., Syracuse, NY 13210, 229 pp., \$9.95. Discusses in general terms the ecological, economic and social considerations of the management and ownership of small woodlands; goes into specifics on important woodland values such as timber, wildlife, recreation and esthetics, and watersheds.

The One-Burner Gourmet, by Harriet Barker, Greatlakes Living Press, Suite 2217—Tribune Tower, 435 N. Michigan Ave., Chicago, IL 60611, 288 pp., paperbound, \$4.95. Hundreds of recipes that will appeal particularly to outdoor people—on snacks, salads, sweets and survival foods, as well as meals—all spiced with bits of pertinent information learned first-hand in the field.

Dove Hunting, by Charley Dickey, Oxmoor House, Inc., P.O. Box 2463, Birmingham, AL 35202, 112 pp., paperbound, large format, \$2.95. Everything you want to know about this extremely popular gamebird—finding a place to hunt, dogs, guns, how to hit 'em . . . the works. Dickey knows his stuff and spells it out here.

The Handy Sportsman, by Loring D. Wilson, Winchester Press, 205 E. 42nd St., NYC 10017, 218 pp., \$10.95. Hunters and fishermen need all sorts of things besides guns and rods—shotgun cases, loading benches, gun cabinets, shell carriers, etc.—and normally they cost significant amounts. Here, Wilson tells how to make them for yourself at little cost and with considerable self-satisfaction. Covers tools, materials, etc., and gives sources for necessary purchases.

Gunning for Upland Birds & Waterfowl, by Shirley E. Woods, Jr., Winchester Press, 194 pp., \$10. Slanted primarily toward ducks, geese and, interestingly, snipe, with reasonable coverage on upland birds and crows, this is written in a personal style that makes for interesting reading.

All About Small Game Hunting in America, edited by Russell Tinsley, Winchester Press, 308 pp., \$10. Twenty chapters written by fourteen experts cover most everything that can be considered small game, plus the rifles, handguns, bows, muzzleloaders, etc., for hunting them. Lots of good stuff.

Another Look at Van Campers

(And Some New Gadgets)

By Les Rountree

ONE OF the pleasures of writing a column is the freedom of subject material. Of course, certain limitations are imposed by the editor and the general heading of the column itself, and the writer should not stray too far outside these limits. Over the years I'll admit to stretching an occasional point, but in reality, almost everything a person does outdoors can have a direct connection with the broad heading of camping. It doesn't take an enormously astute reader to discover after a year's worth of reading that shooting columnist Don Lewis is more than a little enthralled by super-accurate wood-chuck rifles. Likewise archery columnist Keith Schuyler can also be typecast as an incurable experimenter who isn't happy unless he's the first guy on the block to try out the newest radar-sighted bow and arrow. And the fresh, kid-in-the-candystore excitement of Sue Pajak comes through in each of her monthly contributions. The readers learn to expect these things.

Smug Purity

Now, GAME NEWS readers are also prolific letter writers, and if the following self analysis is wrong I'm sure I'll hear about it. Checking back, I discovered that most of my columns carry a fairly strong overtone of smug purity in camping styles. Such as using tents and backpacking gear whenever possible, avoiding too much talk of mechanized gear, and a lot of words about cooking and eating game and other wild things. I'm also more than slightly hung up on small items such as knives, flashlights, boots and hats. I plead guilty to all of these charges . . . and probably won't change much. Life and writing styles become firmly established after a few years and it's hard to cast them aside.

For nearly two years I shied away

from copy that dealt with gasoline-powered engines. I honestly believed, and still do, that in spite of being able to fill up the gas tank at any filling station this summer, we are still in a precarious fuel situation. Imported oil is still our major source of supply and the OPEC nations that control the valve continue to have us in a bind. Okay, so I'm getting too far adrift from camping topics again and maybe this oil talk is too political for a column that's supposed to be fun to read. But because of the traveling nature of most Americans, we've got to burn that fuel to get from one place to another; therefore, doing it economically is of prime concern to most of us.

That's why I'm taking another look at the assortment of custom vans available in the rec-vee market today. Not the big, overstuffed motor homes that were the rage a short four years ago, but their smaller cousins. These are the ones built on the club van chassis—what used to be known as the delivery van.

For pure camping pleasure, I'll still vote for sleeping under fabric whenever I can, but for family traveling in this Bicentennial year when motel and food prices are going through the ceiling, these smaller motor homes are worth another look.

A family can quite literally have a van made up in almost any fashion desirable. It won't even have to be custom made in most cases, for the options available at most rec-vee dealers are staggering. If a small family or couple





VAN CAMPERS come in many styles and price ranges, with the barest necessities or plush accommodations. Shown at top are two examples available to today's campers. Below is Coleman's VersaTrailer, a light, closed-top unit that will carry most anything an outdoors group needs. Right, also from Coleman, the Inflate-All 90, a portable, 12-volt air compressor which plugs into the vehicle's cigarette lighter and provides up to 90 psi air pressure.





SHOO-BUG jacket, worn here by General Joe Foss, protects wearer indefinitely from black flies, mosquitoes, and other bothersome insects. Chemical vapors do the trick; jacket can be "recharged" when necessary.

wants to squeeze every nickle out of their vacation and travel budgets, a stripped van can be purchased for under \$5000 and the interior equipment can be added as finances permit. A delivery style van can be purchased with nothing in the rear end except space, and with the addition of some foam mattresses, a couple of sleeping bags and a camp stove, you're in business for even extended trips.

From that \$5000 base price (a little more or less depending on engine, transmission and air conditioning) you can go up to \$20,000 or more and still have a van-size camper. In the higher price strata everything but a permanent Indian guide is included. The big advantage is that the gas consumption of these vans is almost as good as that achieved by most passenger cars. The mileage figure will go down, of course, when air conditioning and other gadgets are added. It will also go down in proportion to the weight of the inside gear that is carried or permanently attached. So don't overburden the small motor home with a lot of superfluous

gear just because you have room for it. Follow the backpacker's creed that says, "If you didn't use it on three previous trips, you probably won't ever use it."

I'm certainly not about to recommend any particular brand of van or motor home addition. All of the major U.S. auto-producing companies and the VW people in Europe manufacture servicable chassis that have been proven over the years. So many van conversion units are available that it would take an entire issue of this magazine to list them. The best advice is to make a nuisance of yourself at the local dealer showrooms and study the options.

The prices are naturally going to throw you at first (what car prices don't?), but don't figure on initial price as the main consideration. Amortize the purchase over a five-year period and calculate how much you'd save over motel costs and restaurant checks. In addition to vacation use, the smallest van camper can also be used as a second car—or even a first car if your budget will stand but one vehicle. For dual service as a family car, the club vans will do the job better for a large family than will a standard station wagon or sedan.

Special Appeal

I can't avoid commenting that in spite of my love for camping under canvas, the idea of mechanized touring in a van type motor home has a special appeal. It's all self-contained and if visiting historical sites is on your agenda this summer, the van is a super way to go. There are no stakes to pull or outside camp to strike when it's time to move. You simply close the cupboards, buckle up and drive on.

From time to time, the news releases and announcements of this or that camping gimmick build up to the point that I've either got to throw them all away or write something about them. It's reached that time of the year. Here are some items that caught my fancy and may catch yours too.

Flashlight nut that I am, here's an item I just can't resist. It's a flashing

light by Honeywell (they make Pentax cameras and strobe lights) that will produce up to one million candlepower. That's about 300 times more powerful than most flashlights. In addition to casting a steady beam, the Honeywell Signal Light holds circuitry that can be set to flash at one-second intervals. As a signal light or boatman's emergency light, it should be first rate. Standard size C alkaline cells will flash for seven hours at 60 to 70 degrees. Batteries die out quicker at very cold or very high temperatures but still hang for an hour or more at zero or four to five hours at 100-plus temperatures. The unit measures 6 x 2½ inches and retails for \$19.95 at sporting goods stores.

Shoo-Bug

A new product from Cole Products of America is the Shoo-Bug jacket. This is a loose fitting mesh jacket that goes on over your regular shirt or jacket and is saturated with a special bug repellent. I haven't used one of these things yet but some people whose opinions I trust have tried it in the Canadian black fly country and pronounce it a winner. A "recharging bag" is supplied with the jacket. When the repellent loses its strength, simply stick the jacket in the bag for a few hours and it's ready to go again. For people who are plagued by stinging insects this may be something to check into. I don't know the price but a letter to Cole at 801 P. St., Lincoln, Neb. 68508 should get the dope.

I'm continually surprised to discover how many outdoorsmen don't know about the 3M product, Scotchguard. This spray-applied chemical has long been used on new furniture and certain clothing labels, but you should know you can treat your own clothing too. Clean a garment thoroughly and then apply a thin coating of the clear material. It won't *totally waterproof* cotton or manmade fibers but it will create a water-resistant coating that prevents outside gear from becoming soaked. A 12-oz. can costs about \$2.29.



ALL-PURPOSE light from Honeywell flashes once per second at a peak of one million candlepower—excellent for signaling. Powered by two C batteries.

A super firestarter from Lifesaver Products, 32405 Lake Pleasant Drive, Westlake Village, CA 91361, is just what outside barbecuers have been looking for. The Firestarter provides over 5000 lights, one to five seconds in duration, or a continuous flame for nine hours. That's a lot of lighting for the suggested retail of \$9.95. A great item for the car box or the camper.

Coleman, the giant of the camping industry, is constantly coming up with new items and two recent ones look like they'll score in the competitive marketplace. One is a small air compressor that operates from a cigarette lighter outlet and will produce 90 pounds of air pressure. Pumping up a slow leak or several air mattresses should be easy.

Coleman is also offering a small utility trailer called the Versatrailer. Tent campers, hunters and fishermen can haul a week's worth of gear in this easy-to-pull job that features a hinged top. Totally sealed against rain and dust, this 2-wheeler is lockable. Check it out at your local dealer or write to Coleman at 250 N. St. Francis, Wichita, Kansas 67201 for more information.

An Aim at

INSTINCTIVE SHOOTING

By Keith C. Schuyler

Photos from the Author



EVEN EXPERIENCED bow hunters often find it difficult to accurately determine distances under woodland conditions. Occasionally they pace yardage ahead of time from stand to specified points.

still the method employed by a vast majority of bow hunters. There will be no effort here to encourage or discourage such shooting, but knowing just what it really is may be of help. It may also foul up some good instinctive shooters if they start thinking too much about it. Some instinctive shooters probably do well because they do not consciously think about the shot.

Such archers frequently make their first arrow a good one. The next shot may be off center if they stop to reflect on how they placed the first one. Thinking may foul up the subconscious mechanism that served them so well on the first arrow.

Technically, there are no truly instinctive shooters. Instinct is defined as a natural or inherent aptitude, a response to environmental stimuli that is largely hereditary and unalterable though it may be modified by learning. It does not depend upon reason or intelligence.

While some persons take to archery much more easily than others and do a better than average job right from the start, instinct has little or nothing to do with it. Interest, physical aptitude and visual, physical, and mental coordination are more likely reasons; no matter how well any person starts out, he will advance no further without more study and practice.

"But, wait a minute," one might say. "Joe Robinhood can shoot rings around some of those sight shooters and three-fingers-under guys and he doesn't have a thing on his bow or string to help him

INSTINCTIVE shooting with the bow is generally thought of as the ability to simply draw back and release with no conscious effort to employ anything more than the sense that "it feels right." And, strangely enough, such an archer can usually sense at the moment of release whether or not his arrow will hit the target.

Consideration of the so-called instinctive method is important, for it is

aim. Now, if that ain't instinctive, nothing is!"

Well, sir, it ain't. Instinctive, that is.

Here's why. Let's put a fellow, any guy, out in the deep dark woods and leave him nothing to defend himself with except his fists and a set of loose-fitting, store-bought teeth. And here comes a mad bear, a big one. Our friend has two instinctive choices. He can run or he can fight.

It doesn't take a lot of education to know that putting distance between him and the bear will improve his chances to draw social security. But, instinctively, he also knows that the bear can probably run faster than he can. As he turns to scramble up the bank behind him, his hand comes upon a nice, round stone the size of a tennis ball. He takes a precious second of his time to instinctively whirl and fling the rock. There his instinct stops. But he sure doesn't.

Well, suppose it just so happens that the primitive projectile whacks the bad bruin right between the eyeballs and he goes down for the count. Since it obviously isn't bear season or our hero would have been armed, the bear later gets up and both he and said hero live happily to retirement.

The point here is that both running and winging the rock were hereditary and instinctive responses to a threat. It was almost as natural and subconscious as blinking when something threatens the eye. The run was run, the rock was flung, instinctively.

But, the rock bashed the bear! It did so because our guy subconsciously judged the distance from himself to the bear visually, he put all his strength into the throw, and he gauged the speed of the bear with that magnificent computer we call the brain. He didn't know it, but he aimed that rock!

And every archer aims an arrow before he releases it. Possibly it would

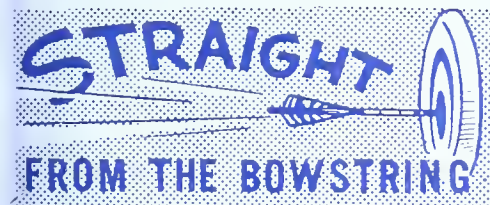
be more correct to call the archer who does not *consciously* use any assist in aiming a *sense* shooter rather than an instinctive shooter.

Most important of the senses, of course, that are employed in shooting the bow, is sight. It is necessary to see the target and to see the arrow. The plane of the arrow shaft, and the head, provide an important relationship between the eye and the target. On a stationary target, even though he may not be conscious of it, the archer judges whether he is holding the right distance below or above the point at which he wants his arrow to hit. Also, he must consider whether he needs any lateral correction to avoid hitting to the right or left of his intended spot. If he does this consciously, he is a *gap* sighter. For, except at point-blank range (the distance at which he can hold the point of the fully drawn arrow on the target and hit it), the arrowhead will be visually held either below or above the exact spot he wishes to hit. If the shooter is not conscious of such a hold, he is a *picture* sighter. His eyes relay the proper information to all those little wheels in his brain and they move his muscles to bring everything properly together.

So Much for Sight

Okay, so much for sight. The sense of touch or feel also has an important part in this thing. The bow hand must set comfortably, and the draw fingers must maintain proper back pressure and open just so to release the string properly. The sense of hearing has a belated part in the shot; belated because it is too late to do anything about it for that particular release. But if it doesn't sound right, the arrow will likely be off target because there was an improper application of the sense of feel. You know—a lousy release. Or the bow needs adjustment, or the arrows may be improperly spined for that bow, or the broadheads are too heavy, or too light, or whatever.

Let's stop right here a moment to think about the preceding paragraph. If you consider yourself an instinctive shooter and think you don't need to worry about all that baloney of adjust-





SMALL GAME hunting sometimes requires extremely fast bow handling under tough conditions. Veteran archers try to prepare for all eventualities.

ing bows, spining arrows, weight of broadheads, etc., well, back up, brother. You are in trouble.

The dedicated sight-shooting bow hunters worry plenty about all that *baloney*. Because if they don't have things set up properly, their sights aren't worth the price of a last year's hunting license. If they do, they will shoot rings around, in, and through your scores so completely that you will wonder why you ever gave up badminton to shoot the bow. I know, because I'm one of you.

If these sight boys are so hot, why even consider the instinctive method as an alternative? There are a number of reasons (some of which sight shooters are invited to challenge over a beverage of their choice, since challengers traditionally pay) which have been proven in the field.

First and foremost, the sport of hunting with the bow presents a challenge

that was legalized long before the use of sights on a bow became popular. The romance associated with bow hunting was certainly a motivating factor for those who made it legally possible to employ this primitive arm to take both upland and big game. However, it also presents a responsibility to do everything in our power to effect clean kills, as we share in the proper harvest of wildlife.

Why, then, if properly set up sights are so efficient, shouldn't everyone be required to use them?

Hunting is Different

Again—and this may find little acceptance among some of my dearest friends in bow hunting—hunting is not target shooting. There are those who erect tree stands on good deer crossings and determine actual distances from the stands to given points so they know just which sight marking to use if an animal appears. Most of these hunters are fine archers. They will probably make their kills cleanly and efficiently. Who can argue with that? They have practiced long and well. The same stand may later be used by a gun hunter with equal efficiency. But to me this isn't hunting.

Another thing. There have been plenty of hunters with sights on their bows who have scored in the field. But when asked which distance pin they used, it is not unusual to hear them reply, "Gosh, I don't remember if I even used the sight!"

Or, after a miss, sometimes you hear something like this, "I got so mixed up that I'll never use that blankety-blank sight again!" Or, "I thought it was 20 yards, but it must have been 30. The arrow was just a fraction low."

Under certain conditions, the ability to shoot offhand can be a decided advantage. When light is poor or the quarry is in deep shadows, the necessity to use a sight can be a handicap. If the animal is moving, it is easier to spot an opening or to be conscious of obstructing limbs or leaves when vision is not pinpointed to a sight.

There are those dedicated sight shooters who score consistently and well in the field. There is absolutely no

question in my mind that the sight shooter who is completely conversant with his tackle has a definite edge over the instinctive shooter. But this fellow is not average. He is a dedicated bow hunter who is just as sincere, and maybe more so, than the equally dedicated instinctive bow hunter.

However, since we are concerned here with the majority—the so-called instinctive bow hunters—where do we go from here? Well, the smart ones will head for the nearest archery club and get involved if such is available. Those who do not have a club within reasonable driving distance might well get together with others of a like mind and try to get one organized. You can get all the help you need from Albert C. Oswald, Executive Secretary, Pennsylvania State Archery Association, 102 Dewey Avenue Ext., Pittsburgh, PA 16223.

Let's assume for the moment that help is available, whether it is an organized club or just a good friend or a good book on the fundamentals of archery or advanced bow hunting. Just what is this responsibility of the bow hunter, whether sight or instinctive shooter, that was mentioned previously?

For a starter, and most important, what is the distance at which, using broadheads, he can score with some consistency inside a 9-inch circle, the almost certain killing area on the average-size Pennsylvania deer? (The NFAA Bowhunter Education Program

requires 3 out of 5 arrows in a 12-inch circle at unknown distances up to 30 yards for instructors.) The answer to this question is the maximum distance at which he should be shooting to take his deer in Pennsylvania.

There can be considerable difference in the performance of broadhead-tipped arrows you plan to use for your hunting than when they are fitted with field points. If you are having trouble getting groups, try more helical on your vanes, either feathers or plastic.

Clear the Cables

If using a compound bow, be sure the fletching is clearing the cables. If the fletching is showing wear, find out whether it is coming from an improper arrow rest on the bow or friction with the cables. If vanes are brushing the cables, you may need to use longer and narrower feathers or plastic fletching to get desirable results.

Of course, the arrow length should be such that you have no more than a quarter-inch or so of clearance between the trailing edge of the broadhead and the back of your bow (the side facing away from you) when at full draw. Is your arrow spined properly for the weight of your bow when you are at full draw? Deviation to the left at 20 yards indicates your arrows are probably too stiff; to the right likely means that they are too limber.

Don't make an expensive exchange of arrows until you have had a qualified person check your tackle and your

THREE-DIMENSIONAL ANIMAL TARGETS provide realistic practice.



release. If you are plucking (letting your string hand fly away from your anchor), you will probably be getting wild lateral error. Keep in mind, however, there are no positives. Play around with your tackle when someone competent is available to watch.

One thing every archer should be conscious of is that generalizations do not necessarily apply to one individual. These rules are merely starting points at which to look for trouble. Since each person is constructed different physically, there may be some not-so-evident difficulty that is peculiar to your style alone.

The bow arm is just as important as the one drawing the string. Any inconsistency in your hold on the bow can result in trouble at the target. The grip must be firmly relaxed every time, but there dare not be any side sway or undue heeling with the hand. Long stabilizers, which can help correct such errors for target shooters, are im-

practical in the field.

Practice. Practice at unknown distances, on the level, uphill and downhill. When possible, attend 3-dimensional shoots.

It is necessary to practice in any sport to attain any degree of proficiency. The hunter carries an added responsibility, for he is after living creatures. This is the only way in which the individual can determine the maximum distance at which he can be confident of a proper hit. Then he knows how close he must approach, or be approached, by the quarry he seeks to take with the bow and arrow.

If we want to put the full challenge of instinctive shooting into our hunting, we must accept the full responsibility that goes with the effort. We should know and be willing to accept the limitations of our abilities as well as that of our hunting tackle before we set foot on the forest floor. Only then do we deserve to be there—as bow hunters.

Available Publications

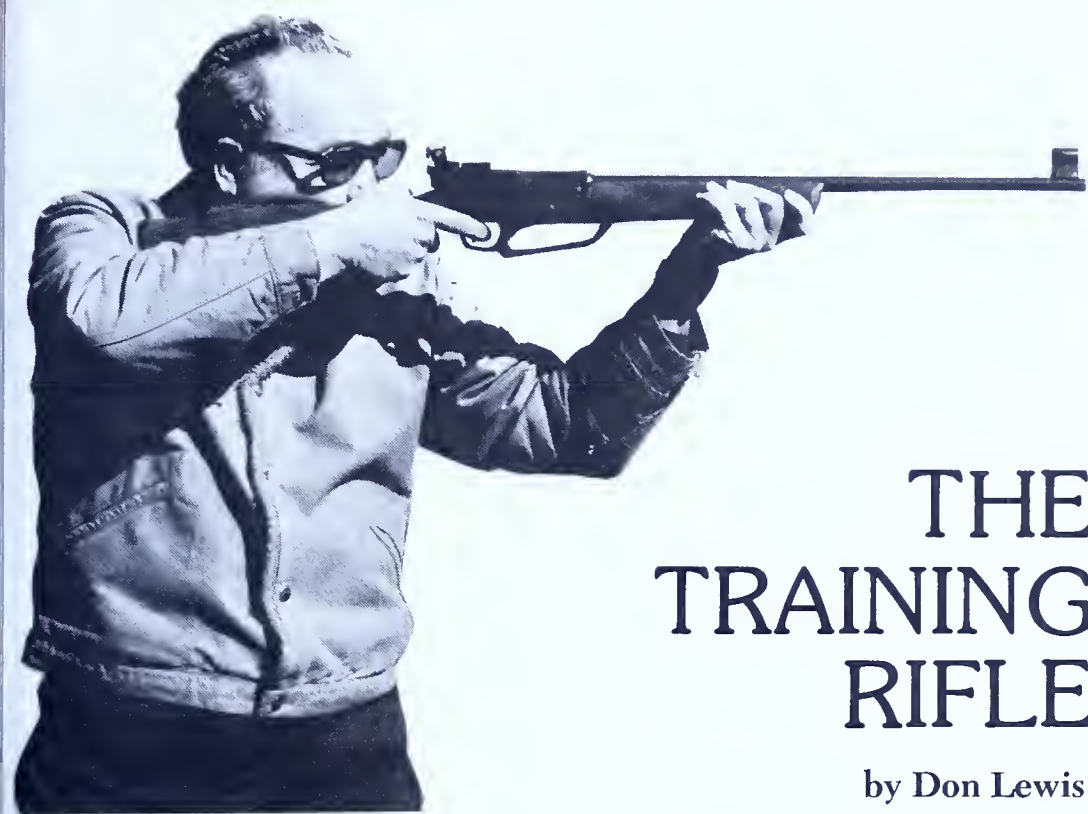
The following publications are available from the Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. Prices quoted include taxes, handling and postage.

GONE FOR THE DAY, by Ned Smith. All of the outstanding columns and artwork which appeared under this title in **GAME NEWS** during a four-year period. Delightful reading for everyone. 216 pp., \$2.50.

MAMMALS OF PENNSYLVANIA, by J. Kenneth Douth, Caroline A. Heppenstall and John E. Guilday. Natural history of all the mammals found in this state. Many illustrations and photos. 286 pp., \$2.50.

THE WHITE-TAILED DEER IN PENNSYLVANIA, by Stanley E. Forbes. Detailed information on all phases of the whitetail's life. 40 pp., 50 cents.

BIRD AND MAMMAL CHARTS, by Ned Smith. Set 1 (20" x 30") \$2.00. Winter birds, marsh and water birds, waterfowl, birds of prey. Set 2 (20" x 30") \$2.00. Mammals of farm and woodlot, mammals of the mountains, birds of the forest, birds of field and garden. Set 3 (11" x 14") \$2.25. All eight charts listed in Set 1 and Set 2. Individual charts not sold in either size.



THE TRAINING RIFLE

by Don Lewis

THE FIRST BB rifle I owned was given to me for a birthday present way back in the late 1920s. Many of the details have been dimmed by the years, but I do recall the package came to a railway station a few miles from my home. It was late spring, there had been heavy rains, and the dirt road was axle deep with mud. One of my brothers got a Model-T Ford through the quagmire and brought back the gift. It was after dark when he got home, but it was the brightest night of my life when I found what was in the long package.

By today's standards, the inexpensive rifle complete with metal target holder, targets and BBs would be insignificant, but to a country kid whose short life had been lived with a family of hunters, there couldn't have been a better gift. When I whipped the new outfit to my shoulder and aimed at an imaginary tiger slinking through the jungle, I was standing in the boots of a big game hunter. When I took the first shot across the living room at a target in the holder, I was on the line with the best at Camp Perry.

These memories came flashing back a few evenings ago as I hooked up my Oehler Chronotach to get velocity

readings for this article. Chronographing is a way of life with me, and fortunately I have both indoor and outdoor setups. With the low velocity offered by the spring and air powered outfits, I could use my 22 bullet trap inside. As I aimed over the Skyscreens at the target on the trap, I relived the night I got my first BB gun. I'm sure it was no match for the Daisy 99 Champion I was using here, as the little outfit I got those many years ago was a single shot that cocked by breaking open the action much like cocking a cork gun. I have serious doubts if my birthday present pushed a BB anywhere near the 289 fps I recorded for a 5-shot average with the 99 Champion.

I must admit my brothers made a wise choice in selecting the BB rifle to get me started. The fact that it lacked speed and power was a plus for a beginner like me. My instructions were clear and to the point. I would give the BB outfit the same type of respect my brothers gave their powder-powered guns. The quickest way I could lose the right to use the new outfit by myself was to use it carelessly just once. Believe me, they made these instructions emphatic and I got the message. Time has erased much of that period,

but I still remember some of the fundamentals I learned with one of the best birthday presents I ever received.

Sometimes I think the general classification of "air rifle" is misleading. True, there are pneumatic or air-powered outfits that have been on the scene for many decades. The spring-powered rifle has been around since long before 1900, but still today, the spring outfit is advertised as an "air rifle." Not being highly knowledgeable on the internal makeup of these outfits, I could have missed the boat, but I think the type that is activated by pumping air into a chamber is a true air rifle, while the one using a CO² cylinder is "gas" operated. When a spring has to be compressed to deliver the power punch, I term that "spring" loaded.

Most hunters and shooters give little thought to the world of the nonpowder gun, but it's interesting to note these guns have a flourishing sales activity across the nation. The BB outfit I received cost no more than \$3, and back then a full-size BB gun would have been under \$10. The pneumatics of that period, however, didn't carry such small price tags. For instance, around

1932, the cheapest Diana Air Rifle cost \$12, and the target model hit an amazing \$45. The Webley Air Pistol boasted a muzzle velocity of 400 fps with the 177-cal. pellet and cost almost \$20. During that same era, the famous Marlin 39 lever action 22 rimfire sold for \$28. Savage's solid frame Model 99 big game rifle went for just under \$41, and a common 22 rimfire ran from \$4 to \$7.

I want to point out rather emphatically that when I started with the little break-open BB rifle, things were much different from today. Urbanization was almost unheard of, and life was not nearly so complex. Much of our land could be classified as rural. Every farm had its share of corn cribs, grain bins, feeding pens and chicken coops that opened the door to a variety of unwelcome visitors. Maintaining pest control was a paramount issue with every country household. It was no different at my home, and I spent many hours in quest of mice that plagued our chicken coops and pigpens. The battle I conducted against these invaders brought extra nickels to buy BBs.

Even with this background, I can't advocate the BB or air driven pellet

DON LEWIS HOLDING Daisy 99 Champion air rifle. Others shown are Smith & Wesson 77A, Daisy 881, and Crosman 1400 Pumpmaster with scope.



gun as a hunting piece. In Pennsylvania, it's illegal to hunt with them, and as a gun tester, I surely wouldn't suggest even the most powerful air outfit as suitable for any type of small game. Any boy or girl using a BB gun or air outfit should remember these outfits are strictly for plinking or informal target shooting.

A few years back, I did some rather comprehensive testing with a variety of air, CO² and spring-powered outfits. My interest had been aroused while reading a brochure from Crosman Arms claiming some of their air outfits hit velocities near the 700 fps mark. I found that hard to accept. I asked if they were interested in providing equipment for test. From their quick response, I should have surmised they had no doubts about their claims. Yet, I wasn't convinced the compressed air outfit was capable of that much speed.

Crosman sent a generous selection of both rifles and handguns, but it was their Model 1400 Air Powered Pellgun that caught my eye. After getting my Avtron K-233 chronograph set up so I would be measuring the speed about five feet from the muzzle, I began to pump air into the innards of the sleek 1400. I admit my distrust was based on a very limited association with some air and CO² guns shortly after World War II. I remember having all kinds of problems, but the most irritating was the constant leaking of air. The end result was low velocity that practically destroyed accuracy.

My preconceived theories began to wane when 6 pumps of air gave a reading of 525 fps and 8 pumps pushed the speed to 578 for a 5-shot average. Going to the maximum of 10 pumps jumped the average to 629 fps. To me, this proved the Crossman brochure to be correct, and I had a new respect for the gun that doesn't use powder. I added more proof a little later when 20 pumps of air sent a 22-cal. pellet from a Smith & Wesson 77A zipping along at 641 fps.

Now that I knew the compressed air rifle was capable of good speed, I swung my attention to the CO² gas-



DON LEWIS preparing to chronograph Daisy M881 air rifle.

operated gun. Using a Crossman Model 622 Pell Clip for my test, I again thought velocity would be around 300 fps. This particular model has an actual clip that holds six 22-cal. pellets. A short pumping action rotates the clip to feed a new pellet into firing position. With a length of 40 inches and a weight of over 6 pounds, the 622 has the heft and feel of a real rifle. Its 23-inch barrel has 10 lands with a 1-in-16 right hand twist. Sighting arrangement is a fully adjustable rear sight with a ramped front sight.

One cylinder gave 45 shots, and velocity remained pretty much the same until the gas powerlet was empty. The K-233 Avtron showed a 480 fps average for 10 shots, and that's shoving the semi-flat nose pellet right along. The more I fired the 622, the more I classified it as a rifle ideal for the boy or girl who has progressed beyond the BB gun stage.

The spring-operated BB gun I cut my shooting teeth on still gets top billing with today's youngster, and rightfully so. While it lacks the speed and accuracy of the air outfits, it's by far the best beginner's outfit. I can easily see where the Daisy 99 Champion has a lot of appeal to the eyes of a 10-year-old. The 99 shows some attention to design





JOCELYN LEWIS, gun columnist's granddaughter, ready to begin training with the Daisy 99 Champion. Most shooters probably got their start with air rifles.

and both the metal and wood finish are above average. The 99 also has an adjustable carrying sling.

Another strong point in the 99's favor is the sighting arrangement. It has a receiver type rear sight that is adjustable for elevation and windage, and the front sight will accept four inserts of various designs. The inserts can be changed very quickly by pushing the thumbnail against a plunger in the hood. The hood has a slot cut in it, and when the plunger's slot aligns with the one in the hood, the insert is dropped in and the plunger's tension holds it in place.

Loading is Simple

The 99 holds 50 BBs in a shot tube that screws into the main barrel. Loading the BBs is simple, and after the tube is in place, the shooter has only to cock and fire. The cocking lever required a hefty pull that forced me to place the stock against my hip to lift it. Actually, this operation requires developing a system rather than just using pure strength.

The BB outfit is definitely not

designed for distance shooting. The round BB may fly several hundred feet or more, but accuracy is a short-range thing. I think Daisy suggest shooting the BB gun at 15 feet for serious target practice. There are no lands or grooves in the BB barrel, and the round ball slides up the smooth tube much the same as the round "punkin" ball does in a shotgun. We all know that design never set any accuracy records! Within its limits, the BB outfit turns in a nice job.

The story is quite different when it comes to air-powered outfits. A good example is the Daisy 881 pump. It uses either the regular BB or the 177-cal. pellet. Even at the short range to the bullet stop in the Chronotach set-up, I could see the difference in accuracy between the BB and 177 pellet. The pellet cut one jagged hole when I fired over the Skyscreens for velocity readouts. Using the same sight picture for every shot, the BBs landed in an area of one inch.

I did learn one thing. The Oehler Chronotach showed the BB to travel faster than the pellet with the same charge. With six pumps, the BB hit a good velocity of 550 fps whereas the 177 pellet fell just short of the 500 mark. Eight pumps sizzled the BB out at 644 fps and again the pellet averaged lower—578 fps. Ten pumps gave an average of 690 fps with the BB and 642 for the pellet. Although Daisy advocates using no more than 10 pumps of air, I went beyond that to 14 pumps and hit 745 with the BB and 693 fps with the pellet.

That struck me as being strange, as the skirted pellet should seal in the lands and grooves preventing leakage which ought to up the velocity. When I weighed each projectile, I found the lead pellet weighed 7½ grains and the BB 5½. My conclusion was the lighter BB may have some advantage in speed, but lacks quite a lot in accuracy.

In the Model 881 pump, the 177 pellet must be hand fed on a single shot basis, but 75 BBs can be poured into a magazine in the receiver. The first step in loading a BB into firing position is to pull back on the bolt handle and raise

Daisy M881 Pneumatic Rifle
Velocity Taken at 6 Feet
Oehler Chronotach, Skyscreen System

Pumps	Velocity BB	Velocity 177-Cal. Pellet
6	588	556
6	592	558
6	<u>590</u>	<u>557</u>
	Ave. 590	Ave. 557
8	669	605
8	644	608
8	<u>655</u>	<u>612</u>
	Ave. 655	Ave. 608
10	682	646
10	685	645
10	<u>680</u>	<u>641</u>
	Ave. 682	Ave. 644

the muzzle. A BB is gravity fed onto the magnetic tip of the bolt. Simply push the bolt fully forward, and it is in firing position. The 177-cal. pellet cannot be fed from the magazine. Opening the bolt and dropping the muzzle allows the pellet to be placed with the solid end forward in front of the bolt. Using pellets while there are BBs in the magazine is not recommended.

As far as accuracy goes, there is no comparison. At 20 feet, I could shoot one-holers consistently with the 177 pellet, while the BB tests gave groups over 1½ inches. I'm not condemning 1½ inches as bad, but maybe I've fired too many first-rate chuck and bench rifles to be impressed by it. I can see the advantage in the BB for elementary work, but I'd prefer to stick with the pellets and know I was going to hit what I was shooting at.

The BB, gas and air outfits really have but one purpose—to train the beginner in the basic fundamentals of shooting along with safe gun handling. For further information, the best advice I can give is to inquire about the Jaycee Shooting Education Program. According to Daisy, over 500,000 youngsters take part in the program every year. In some areas, Boy Scouts, 4-H'ers and Boys Clubs offer similar programs. The National Rifle Association will supply information by contacting the NRA at 1600 Rhode Island Ave., N.W., Washington D.C. 20036.

The non-powder gun can play an important part in every youngster's life. This type of training teaches responsibility and respect for guns. Competition on any level stabilizes the youngster. In reality, it's just as tough to accurately shoot a BB gun at 15 feet as it is a match 22 rimfire outfit at 50 feet. Instead of thinking negatively about the BB gun and its kin, take the more positive view that responsibility must be taught at an early age. I can truthfully say that in 40 years of gun handling, I've never met a responsible gun handler who was an irresponsible person.

Perhaps only a few will be so dedi-

cated that they graduate to the famous Daisy FWB Model 4301 that weighs 14 pounds and sells for over \$300. Outfits such as the 4301 are precision guns that are used in the stiffest competition. They go one step farther in proving the world of the air rifle is not made up of a few eccentrics, but is filled with dedicated, top-quality shooters.

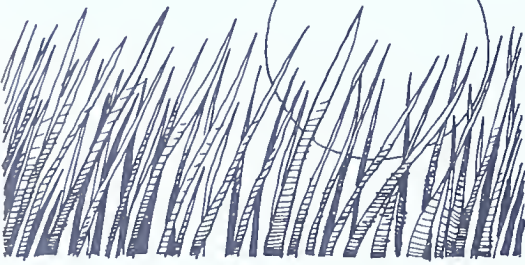
The training I received with the common BB gun instilled in me some attributes I may not have gotten otherwise. The fact that I'm a hunter put me in the great outdoors and taught me to respect the land and the people who own it. I believe people with this kind of training have no desire to destroy or vandalize. My association with countless hunters and shooters has proved they aren't interested in willful acts of destruction, but are mainly concerned with building better relationships between hunters and landowners.

This is what proper gun training is all about. The boy or girl who knows how to shoot properly and hunt safely will also show a vital concern for those about him. If it hadn't been for the training I received with my first BB gun, I might have been a less concerned person today.

In the wind

chuck fergus

information writer



The Northern Great Plains area, where the Dakotas meet eastern Montana and northeastern Wyoming, contains thousands of square miles of land largely undisturbed by industrial development. Underground is an estimated 1.5 trillion tons of coal. More than half of the minable coal is surface minable. A complicated conflict seems sure to develop in this area between environmentalists, government, landowners and coal mining companies; this issue will probably become the major environmental issue for the remainder of the 1970s.

To improve poor rangeland, roadside blight and erosion, the U.S. Dept. of Agriculture may start selling varieties of three native wildflowers. "Kaneb," purple prairie clover, fixes nitrogen in depleted soils and can be eaten by animals. "Eureka," thickspike gayfeather, beautifies highway corridors. "Nekan" (pitcher sage) helps improve prairie grazing land and serves as wildlife food. These flowers are intended for use in western states.

A group of Cornell University ornithologists, aided by state, federal and private funds, is making encouraging progress restoring the endangered peregrine falcon in the wild. Since 1973, the Peregrine Fund has released 68 peregrines from captive parents. Last summer, 16 young falcons were released in five eastern areas with remarkable success. A site for peregrine release in Pennsylvania is planned. Tax-deductible contributions to the project may be sent to The Peregrine Fund, 159 Sapsucker Woods Rd., Ithaca, N.Y. 14853.

The canyon country of the U.S. Southwest—centered around southern Utah and northern Arizona—comprises about one-fifth of all the acreage of the National Park System. Environmentalists worry that huge new coalburning plants already operating in the area may create a permanent haze over the Lake Powell-Grand Canyon region. The power plants are equipped with pollution-control devices, but still might emit sulfur dioxide, oxides of nitrogen and tons of fly ash.

In the U.S. today, almost seven million hunters have graduated from state-sponsored hunter education programs. In 1949, New York organized the first firearm training program; there are now programs in 49 states which provide courses on safe and responsible hunting to just under one million young people annually. Hunter education programs are largely supported through funds from the Pittman-Robertson Act, which places an 11 percent excise tax on sporting arms and ammunition.

The National Wildlife Federation has urged caution in federal leasing of oil drilling sites off the coast of New Jersey and Delaware. In a statement to the Interior Department's Bureau of Land Management, which plans to lease up to 876,000 acres in 154 sites on the Outer Continental Shelf, NWF called for a delay in leasing and a cutback in acreage to be offered to oil companies. NWF feels the leasing should be delayed until coastal zone plans are developed and assurances are firm that any oil spills will be contained and removed.

Preliminary research released by West Virginia University shows effects of construction of a highway, U.S. 48, on wildlife in Cooper's Rock State Forest. Meadow mice and rabbits increased in grassy areas bordering the highway, and they in turn apparently attracted natural predators such as owls, foxes and hawks. Deer and turkey numbers did not decrease, although the turkeys moved back from the road. More studies must be completed before definite conclusions can be drawn.

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COVER PAINTING BY NED SMITH

Pennsylvania—ripe with history, home of such famous Bicentennial symbols as the Liberty Bell and Valley Forge. Home, too, of the Pennsylvania Long Rifle which played a crucial part in the struggle for independence. Though angry, frustrated colonists proclaimed their independence, the mere signing of that Declaration was not enough to assure a new status. It took people with guts and determination—and skill with weapons—to fight for their hopes. That's the way it's been throughout history. Perhaps someday diplomacy will replace battle. But 200 years ago, it was rifles in the hands of skilled woodsmen that made our Declaration of Independence more than just brave words on paper.

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Two Hundred Years

IF BY ANY CHANCE Ned Smith's cover painting didn't make it obvious and you haven't read the contents page yet, this is our Bicentennial issue. We've had several Bicentennial-related articles already this year and expect to have more later on, but sometime ago we decided to devote an entire issue to the subject and July, the month of our Independence Day, seemed the logical choice.

Re-reading these articles, I was again impressed by the importance guns have played in our history. Guns and the ability of private citizens to use them. If you've never considered this before, stop and think about it for a moment. The very birth of the United States came about because men with muskets and Pennsylvania long rifles were willing and able to bring the words of our Declaration of Independence to life. No matter how inspiring, words alone mean nothing without power, and it was the guns in the hands of individuals such as Tim Murphy, whose story is told in this issue by Jim Bashline, which made it possible for us to defeat the strongest nation on earth. It was also men with guns who moved westward, crossing mountains and rivers and plains and deserts, fighting Comanches, Sioux, Apaches, Mexicans—even each other—until a skinny strip of Atlantic-seaboard colonies was forged into a country that stretched 3000 miles from ocean to ocean. And after all that territory was won, it was other men with rifles—Springfields, Garands, 30-caliber carbines, BAR's—who made the continued existence of these United States possible.

It's not pleasant to think about wars and fighting and killing. Any sane person would prefer that such things vanish from our lives. Perhaps that's part of the reason for today's antagonism toward sporting arms and hunting (which are actually unrelated to war), our reluctance to get involved in others' problems, the fanciful ways we avoid facing reality. Nevertheless, it is a fact that our country was brought into existence by men with guns and the moment such men cease to exist, so will the United States.

The qualities that created and defended this country are less obvious now than in recent generations. Time alters some things, makes us forget others, and two hundred years is a good stretch of time by most standards. Today's self-styled sophisticates have adopted a superior attitude toward the oldtime virtues such as honor, honesty and courage. Their attitude is, "I'll get mine and if you don't get yours—tough." But we can't help wondering if there ever would have been a United States if early Americans—Washington's troops at Valley Forge, say—had had that attitude. It's something worth pondering these days.

In the end, it all comes down to the individual who's willing to fight, even to die, for others as well as for himself. It's hard to believe there are such persons these days, when our mass communications are flooded with inanities from countless supercilious commentators, but we've always had such individuals in the past and we'll have them in the future. They appear when the situation demands it. And that's what gives us hope for the next two hundred years.—*Bob Bell*



Many Historians Claim that the Outcome of the Revolution was Decided by One Shot
Fired by a Young Woodsrunner from the Sunbury Area. This is the Story of . . .

Tim Murphy —Rifleman

By Jim Bashline

"Lissen!" Morgan shouted. "If we're gonna win this one, that general on the gray horse has gotta go down. Climb some of these here trees and get him!"

Every Shirt Man within hearing scattered to obey Colonel Daniel Morgan's order. Within moments the flat crackling of their long rifles cut through the din of battle. Three hundred yards away the commander of the British troops spurred his big gray horse along the line of his men, shouting encouragement as they advanced through the wheatfield on Freeman's farm, not knowing, or not caring, that he was the target of some of the deadliest marksmen of the Revolution, a dozen of the famed "Morgan's riflemen."

High in a white pine overlooking the battle, one of these men followed the general over the sights of his double-barreled Golcher. At 250 yards, the British commander was still too far to be certain of placing a rifle ball. The rifleman listened to the shouts of the other Shirt Men as they argued about distance and wind, concentrating on the general, ignoring the mass confusion spread out before him. Gradually, the enemy troops, and their commander, grew closer. The black-haired

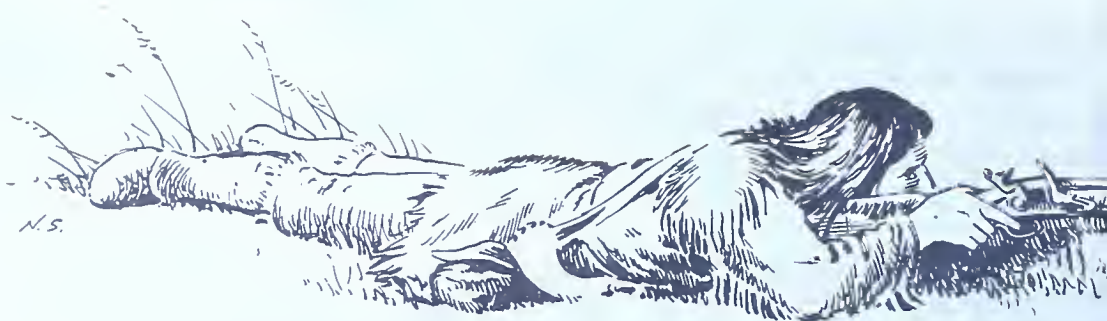
rifleman waited with the patience of a hunting hawk. At 200 yards, he fired. His shot hit the big gray horse, sent it to bucking. He rotated the second barrel of his Golcher into readiness as the general brought the animal under control, fired again. Again the horse jumped and crowhopped. He could see the general yelling something to his men, hear their excited shouts. The Shirt Man swung his rifle around, braced himself in the swaying tree, reloaded quickly. Rifle shots cracked regularly from the nearby trees, but the general was still unhit. He seemed to bear a charmed life. Once more the double-barreled Golcher was swung into alignment, braced along a branch. For a moment as it followed the moving figure there was a lull in the firing, a stillness over the battlefield. Then the Golcher cracked. The British general stiffened, caught himself, then sagged from the saddle as the big gray horse galloped off. The general's fellow officers hurried to his side as a cheer rose from the Shirt Men.

"Who got him?" Morgan roared. "Who got the general?"

"Murphy!" a Shirt Man called. "It was Tim Murphy that done it!"

WARS HAVEN'T changed much over the past 200—or 2000—years. Grand strategies are still formulated by generals and their staffs, within frameworks set up by politicians, and put into action by field

commanders. Such is the stuff of great heroes and historic tomes. The actual fighting, of course, is done by the common man, usually a foot soldier, for the most part just another nameless, faceless man with a rifle. But sometimes



fate sees fit to let great events hinge on the ability and courage and determination of one such common man.

One of these was Tim Murphy, a young Pennsylvania rifleman and woodsrunner from the Northumberland country who in 1777, during the Battle of Saratoga, fired a shot which altered the course of history. Tim Murphy's rifle ball killed General Simon Fraser, commander of the British troops during the engagement then known as the Second Battle of Freeman's Farm. As a result, the victory there went to the Americans. And that battle, according to many historians, was the turning point of the Revolution. There's no doubt that Murphy's shot was the most important one fired during our War of Independence. It might be the most important shot ever fired by an American . . . perhaps the most important one ever fired. Who else can be credited with firing a shot which in effect determined the outcome of a war, laid the foundation for a country destined to become the mightiest and most respected nation on earth?

It was Murphy's unique act during the Battle of Saratoga which noticeably set him apart from the rest of Morgan's Shirt Men, so called for their buckskin or homespun hunting shirts, and which much later made him the subject of John Brick's fine novel, *The Rifleman* (Doubleday, New York City, 1953), which provided much of the background for this article. A most unlikely hero was Murphy. Born near the juncture of the north and west branches of the Susquehanna, Murphy grew up trapping and hunting. All he wanted during pre-Revolution days was to be alone in the woods. Murphy's father, a

TIM MURPHY was well known in the Sunbury region as a crack shot and an expert trapper who had little use for the refinements of colonial culture.

reasonably prosperous farmer, disappointed of Tim's trapper existence, but was unable to do much about it.

Although he could not read or write, Murphy rose to the rank of sergeant in the Revolutionary Army; had he gotten more formal education, he might well have been an important officer in the ragtag patriot army so important in creating the United States of America. On the other hand, as an officer Murphy might not be nearly so interesting to us today.

Other generals on both sides died in battle before and after Saratoga, but General Fraser's death proved a crushing blow to the British. The cream of the British regulars, aided by several hundred German mercenaries, were soundly beaten by a crew of hollow-eyed backwoodsmen who didn't know how to march in step, salute, or even accept orders without question, but who fought like demons. "Saratoga" became a rallying cry for the Americans.

Morgan's riflemen had already demonstrated their marksmanship on numerous occasions. While the colonial militia would stand nose to nose with the British and battle hand to hand when their muskets were empty, the hawk-eyed woodsrunners preferred to deliver their deadly rifle fire from over 200 yards away and live to fight another day. Their frontier life and Indian fighting had given them an instinct for survival, and they adapted their combat methods to take best advantage of their specialized weapon, the super-accurate, small-bore, rifled-barrel flintlock. At the siege of Boston, in which



Murphy took part, the Shirt Men were credited with picking off their enemy at phenomenal ranges. Time has no doubt embellished the stories, but it is well recorded that many British regulars came to inordinately fear the Shirt Men who fired from everywhere and then disappeared . . . into nowhere.

They feared them for another reason too, a habit the backwoodsmen had picked up from Indians—that of taking scalps. (This uncivilized practice no doubt appalled the Minutemen of Connecticut and Massachusetts.) While the Shirt Men took scalps from some British regulars, they much preferred to lift the hair of Indians fighting for the King or Tory terrorists who led the Seneca nation tribes on frontier raids. The unwritten code of the woodsmen made them respect the professional soldier; but a lifetime of hard backwoods existence also taught them that their own locks would wind up dangling from a warrior's belt if they made too many mistakes.

Two Barrels

According to the Brick novel and other sources, Tim Murphy's rifle was unique for the time. It was supposed to have been custom-made for him by John Golcher of Easton. Instead of the standard one barrel, Murphy's rifle had two barrels—one on top of the other. Here history and legend intertwine and are difficult to separate. Double-barrel rifles were made during the late 1700s, but it's difficult to verify that Golcher built one and even more difficult to learn if Murphy owned one.

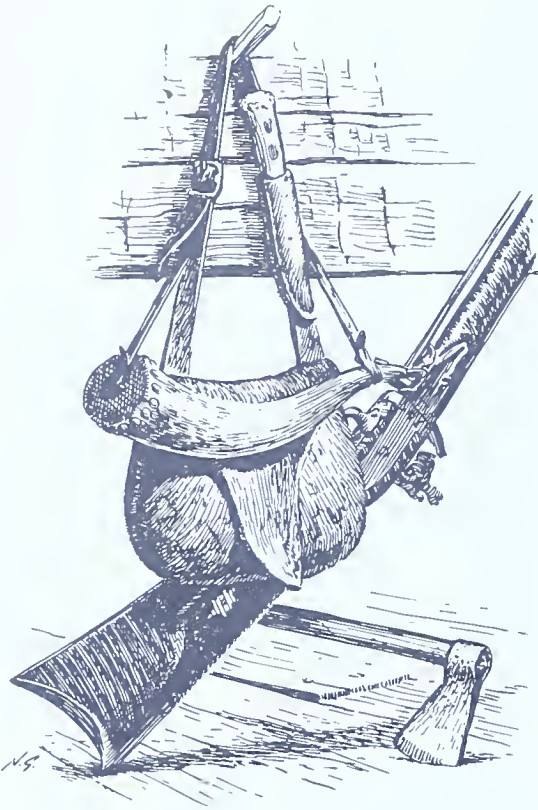
Still more legend has it that Murphy's highly adventurous war experiences were prolonged by the surprise element his gun provided. With

it, he could fire two shots before reloading. Anyone who has ever thought about the sheer terror involved in fighting a battle with single-shot rifles can immediately grasp the significance. In a one-on-one situation, after both combatants had fired their rifles there was a pause of 15 or 20 seconds while rifles were reloaded for another shot. If the first shot missed or merely grazed the enemy, a hand-to-hand confrontation usually took place. Officers carried swords and frontiersmen carried tomahawks—functional weapons of war. But Murphy had the advantage of two shots, and the soldier or Indian who closed in for a fight would have had a fatal surprise.

Before Tim Murphy became a soldier, he was reasonably well-known in the region of Penns Woods north of what is now Sunbury. At 24 he was a crack rifle shot and an expert trapper who had little use for the refinements of colonial culture. By today's social standards he would have been a misfit or an incurable recluse. Those who knew him (and many claimed they did, 50 years after the Revolution) say he was not a large man but was exceptionally powerful. He had black hair, dark eyes and always walked as if he were trailing something. He could not read or write, but he was a good leader of men and highly thought of by his superior officers.

Murphy was liked as well as respected by his fellow soldiers; apparently he was a good man to have on your side in a tavern brawl as well as a backwoods battle. At the height of the Revolution, his belt was decorated with two dozen scalps.

In the *Ballad of Tim Murphy*, by A. M. Sullivan (Declan S. McMullen Co.,



MORGAN'S RIFLEMEN thought and fought like Indians, and like them could live off the land with only the few items which they carried on their backs.

New York City, 1947), the saga of this son of the Minisink Hills is immortalized in heroic verse. For 125 pages, the trials and fortunes of Murphy are told with some accuracy and a whole lot of fanciful musing. It's fun to read, and for those interested in soul-stirring balladry, this is more interesting than pure history. And a lot of it might be true!

Tim Murphy's military career is remarkably well recorded. We know, for example, that he enlisted in Captain Lowden's Rifle Company at Sunbury on June 28, 1775. He reenlisted a year later, after participating in the siege of Boston, and crossed the Delaware with Washington's troops on Christmas night, 1776. He wintered at Valley Forge with General Washington, probably faring better than most there as his life as a trapper had conditioned

him to Pennsylvania's rigorous winters.

Murphy fought the Iroquois Indians during the summer of 1779 as a member of Parr's Riflemen, and later the Mohawks and Tories while defending the Middleburgh and Schoharie Forts in New York State. He was mustered out of the service after Cornwallis surrendered at Yorktown and returned to Schoharie to marry a girl named Margaret Feeck. Margaret was the daughter of a Dutch farmer in the Schoharie Valley, which Murphy had helped defend from the Indians and the "blue-eyed savages," the King's equivalent of the colonial Shirt Men.

Much of the background for Brick's *Rifleman* and Sullivan's ballad probably comes from Jephtha Simm's book, *History of Schoharie County and the Border Wars of New York* (Albany, 1845). Simms interviewed Dave Elerson, Murphy's closest companion during the Revolution, and many Schoharie residents who knew Murphy personally. Following the war, Murphy kept to himself in typical backwoodsman fashion and was scarcely heard from again. He died in 1818 at the age of 67 and is buried, according to Sullivan, at Middleburgh, N.Y.

Bits and pieces about Tim Murphy are recorded in dozens of history books, historical novels, collections of letters and official army records. There can be no mistake about the existence of the man. He was there and he was very much involved. It's the prerogative of latter day observers to decide his importance in the overall picture of the American struggle for independence.

Some of the Murphy exploits in Brick's novel are, as the author admits, embellished. As with all bigger-than-life characters, the full Tim Murphy story will never be known. Who knows, it may have been even more mind-boggling than the wildest stories about the man. This was the fun part of my search for Tim Murphy . . . the musings about what passions and thoughts went through men's minds in those troubled times. Professional historian I am not, but now I know why a person might want to become one. Nothing is more fascinating than discovering the past, and when the past includes an

authentic hero like Tim Murphy, it's downright exciting.

I began my research of Tim Murphy with Brick's book. It was enjoyable, exciting reading and my first inclination was to stop there and write this short article. But my interest in Murphy had grown, and I started searching more historical novels and accounts. To my surprise, this research showed that I didn't know much about the American Revolution. Paul Revere's ride, the Minutemen, the Liberty Bell, the Fourth of July, and the Declaration of Independence that was just about it. To me, and I suspect to many other citizens living in 1976, the fight for independence is a study of *things* and not people. But all of those things didn't merely occur—someone had to make them happen. Not common people, mind you, but highly *uncommon* people. It's popular American semantics to use the words "common people" or "common folk" when describing the strength of this country. But I maintain that Thomas Jefferson, George Washington, Alexander Hamilton, Benjamin Franklin, Colonel Dan Morgan and, yes, Tim Murphy were uncommon men and without them history would have taken an entirely different turn.

Committed to Crown

Up until the very signing of the British surrender—and a long time afterward—only a small percentage of Americans honestly believed we could survive as an independent nation. Early in the Revolution, the poorly clothed and trained continental army was not always greeted with open arms. Much of the population was deeply committed to the British Crown and acted out of strong principle, and not out of hatred for their neighbors who believed differently.

For the most part, the Tories were well treated after the war and allowed to own property without interference. Some who had plotted against the revolutionists were publicly hanged, and many others lived lives of continual persecution. There were excesses on both sides, to be sure, and Morgan's Riflemen were among the most venge-

ful of the lot. They had seen first-hand the savagery of Brant and his Mohawks, the Tory William Butler and his Senecas, and Sir John Johnson and his blue-eyed savages, the Tory Rangers. These guerrilla raiders, not the British regulars, were the most vicious enemy, and the Shirt Men relentlessly hunted them down. The raids that these renegade bands had made into Pennsylvania's Wyoming Valley and the Schoharie Valley in New York were enough to drive the riflemen to a crusade of retaliation.

The Pennsylvania Riflemen were probably the best rough-and-tumble band of fighters this nation has ever produced. With a horn full of powder, a bag of rifle balls and those straight-shooting slender rifles, each man became a self-sustained unit. The Shirt Men did not need the vast supply stores that followed the well-disciplined British Army, and they met their Tory Ranger counterparts on equal ground.

Tim Murphy and his comrades knew very little about the document that would be forged in Philadelphia. Few of them could have read it. But they were certain in their hearts that the cause they were fighting for was well worth the gamble. They were the essence of freedom. They had known the hunting and trapping life on the frontier, and while tea taxes or constitutional representation might have been important issues to some, what mattered to the Shirt Men was to be able to strike off on their own into new country and to meet nature and the world head on. That was freedom to them, and they were willing to fight and die for it.

*The redcoat and the redskin feared
The squinting eyes that looked along
The smoothbored rifles held by weird
Young woodland creatures with their
long
Beards waving and locks unsheared
And one there was whose words made
song—
Tim Murphy with the gun by Golcher
Whose smoke was scented for the vulture . . .*

(From *The Ballad of Tim Murphy*,
by A. M. Sullivan)

VALLEY FORGE, 1777-78



The Bitter Winter

By Wilbert Nathan Savage

THE WEARY Continental soldier shifted uncomfortably on the November-chilled ground, but he uttered no complaint. Indeed, he counted himself fortunate: he had a blanket. Many of his fellow soldiers did not.

Uneasy memories of the defeat at Brandywine made him wince, but pondering the more recent failure to gain a victory at Germantown evoked even greater turbulence in his troubled thoughts.

Washington's troops had attacked from the northwest and met the British in the Battle of Germantown on the night of October 3, 1777. The next morning, in the confusion of heavy fog from the river, the valiant but poorly trained Continentals were driven back. They blundered past British pockets of resistance, lost touch with one another, and sometimes mistakenly shot into their own ranks. They lost a lot of men, guns—and prestige. Retreat was the only answer, and Philadelphia was to remain in British hands for the winter.

Now, in late November, the Army of Continentals lay on frozen ground at Whitemarsh, many half-clad, without overcoats, and with a scanty supply of blankets and tents. By the middle of

December they were in need of the very necessities of life.

Earlier there had been a rumor that new winter quarters were being prepared. Hope for improved conditions flamed among the rank-and-file. But those expectations were crushed when, in the approaching shadows of night on December 19, 1777, they marched into Valley Forge. The plight of the troops appeared as grim as ever; despondency and uncertainty settled over the camp once more. Washington was in utter despair.

In the bitter cold of his tent at Gulph Mills, the Commander-in-Chief wrote to the Continental Congress for desperately needed clothing, food, and supplies for his faithful followers; but failure to respond indicated seeming Congressional desertion.

"Our sick are naked, our well are naked," Washington's plea stated. "I can assure you that it is much easier and less distressing to draw remonstrances in a comfortable room by a good fireside, than to occupy a cold, bleak hill and sleep under snow, without clothes and blankets. I feel superabundantly for the naked, sick and distressed soldiers, and from my soul pity those miseries which it is neither

in my power to relieve or prevent.”

Four thousand of the 11,000 soldiers then encamped at Valley Forge were in critical need of blankets, and 2000 of the men had never even been issued one, although they had been 12 months in service! And yet . . .

The ill-fated soldiery could not remain idle. Log huts had to be built; water had to be hauled; men had to forage the countryside for food; forts and hospital huts had to be built; massive breastworks or entrenchments had to be thrown up. Wood had to be cut for “warming” fires and to heat the field ovens, each of which could bake 60 loaves of bread—when there was flour with which to prepare the dough.

The chopping of many hundreds of trees for huts and fortifications soon had a considerable area “as bald as an egg.” Washington personally issued instructions to soldiers cutting firewood, cautioning them to reserve 16- and 18-foot tree trunks for hut logs. Prizes were offered to those able to finish a hut in the quickest and most workmanlike manner. But even though the hut-building schedule was accelerated by these incentives, many soldiers were still shivering in flimsy, snow-laden tents

well into the new year, January, 1778.

The clothing of the troops was so wretchedly insufficient that some of the men in camp remarked, “If Congress needs rags to make paper, we have plenty of them.” Earlier, before the defeat at Brandywine, Washington had approved the wearing of hunting shirts when no other uniform was authorized or available. Butternut brown was the preferred color, the shirts long-skirted and made of linen. The Commander-in-Chief even pointed out the convenience of the hunting shirt, as well as the fact that from a distance it could strike fear in the hearts of the British “who might think all who wore it frontier marksmen”

Flapping Fabric

Now, worn under the most punishing conditions, both shirts and overall-like trousers were threadbare shreds of flapping fabric. Washington wrote: “Without arrogance or the smallest deviation from truth, it may be said that no history now extant can furnish an instance of an army’s suffering such uncommon hardships as ours has done, and bearing them with the same patience and fortitude. To see men

GEORGE WASHINGTON, Commander-in-Chief of the Continental Army, as portrayed during a moment of supplication at Valley Forge.





RECENT RE-ENACTMENT shows some of the daily life of Washington's soldiers at Valley Forge . . .



. . . the crude huts they lived in, their methods of cooking, the disciplined drilling that turned them into an effective army.



without clothes to cover their nakedness, without blankets to lie on, without shoes, for want of which their marches might be traced by the blood from their feet, and almost as often without provisions as with them, marching through the frost and snow, and at Christmas taking up their winter quarters within a day's march of the enemy, without a house or hut to cover them until they could be built, is proof of patience and obedience which in my opinion can scarce be paralleled."

As the intense cold of winter settled over Valley Forge, the spectre of hunger grimly stalked the hapless encampment. During most of the war a principal source of food for Washington's army was Connecticut, where Gov. Jonathan Trumbull, a businessman, not only procured quantities of flour and beef but also set up a cannon foundry, a shoe shop, and a plant for salvaging damaged muskets.

Virginia, Maryland, and New Jersey also supplied food for both men and horses. When roads were mired or snow-covered, supplies didn't move at all. Sometimes the British intercepted and captured vital provisions almost within sight of Valley Forge—such as 130 head of cattle being driven down from Connecticut. The tip on the cattle drive schedule came from Bucks County, then a hotbed of English-favoring Tories.

Valley Forge was a rich farming area, but it had been picked clean by both armies. Little food was left. Most farmers had grown cunning about hiding their goods. Both farmers and merchants generally were reluctant to exchange food and clothing for Continental chit (currency). This unstable medium of exchange could not compete with British gold, and its tendency to unpredictable depreciation gave rise to the still-used term, "Not worth a Continental."

Historians have tried to determine whether starving troops at Valley Forge ever ate horse meat. No evidence of consumption of this emergency fare has been brought to light. But an army physician who wintered with and treated the soldiers at Valley Forge wrote in his diary: "Here comes a bowl

of beef soup, full of burnt leaves and dirt . . . hard lodging, cold weather, nasty cookery, fatigue. We give the sick mutton and grog. I am tempted to steal fowls if I could find them, or even a whole hog. But I speak of hunger when so many have not even Fire Cake and water to eat" (Fire cake was flour and water mixed to a thick batter and baked on a griddle, and described as "not very tasty.")

The scarce rations also included Indian meal and molasses, and honey was a special-occasion food, probably found in a few trees of the vast number felled.

Wildlife Skittish

For the most part the larger game animals had already departed the Valley Forge area when Continental troops settled down there for the winter. Quite naturally, the activities of 11,000 men made local wildlife skittish, and many birds and animals would have left the area of the winter encampment. But when troops first arrived in the region, both deer and turkey apparently were taken by selected soldiers—presumably those with hunting ability and skill in marksmanship. In what numbers original kills were made we do not know, nor do we know the exact locations of the successful assignments afield, but J. Duncan Campbell, an archeologist writing in *Picket Post* (May 1957), reports finds of both wild turkey and deer within the encampment site.

It is also known that foraging detachments were sent out into the countryside where small game animals remained—at least temporarily—in worthwhile numbers. According to John B. B. Trussell, author of *Epic on the Schuylkill*, "Archeological studies have identified the burned bones of squirrels, rabbits, and opossum or raccoon at the Valley Forge campsite . . . wild pigeons also provided, briefly, another source of food for the troops."

Bright spots in the food situation were rare, but they did occur. A Philadelphia baker named Christopher Ludwig, a number of well-to-do farmers, and a few merchants doggedly stuck with the Continental cause—even though it was commonly believed



AUTHENTIC reproduction of a hospital hut, on original site. Despite medical efforts, the terrible winter took a great number of human lives.

that the painful effort didn't have one chance in a hundred to succeed.

Indeed the pessimism seemed valid as the unusually severe winter dragged along. Without straw or other materials to insulate the soldiers from the wet earth, many fell sick, and mortality spread among the troops. Their feet and legs froze until they became black, and amputation was necessary in numerous cases. Thousands of men were ravaged by dysentery, rheumatism and smallpox. The final count would confirm that, out of 11,000 troops, 3000 did not survive the winter's brutal hardships and disease. And yet . . .

The mettle of the men miraculously remained intact—an example of devotion to duty that has inspired Americans for 200 years. The bright lights in the darkness now included treaties of commerce and alliance with France, signed on February 6. Spain and the Netherlands also came to the support of the American struggle.

Another encouraging event took place when a military expert in training soldiers arrived at Valley Forge on February 23. His name: Major General Baron von Steuben. Von Steuben, a Prussian field officer now enlisted and commissioned in the service of the Continental Army, believed he could teach the Americans better military organization and discipline. He introduced regular formation and taught

the soldiers how to fire continuously by having one rank loading while the other rank knelt and fired. By drilling, drilling, drilling, von Steuben also taught the willing Continentals how to march with an easy, medium step, as well as *not* to advance in Indian or single file, but in columns of four.

When von Steuben first reported to Washington at Valley Forge, he learned that the infantry was equipped with a variety of firearms. He immediately used his influence to have all foot soldiers armed with the standard infantry weapon: the smoothbore muzzle-loading musket with an 11-gauge (three-quarter inch) bore.

Responding well to the discipline exacted by von Steuben, the men under his command soon became proficient and started to show snap and pride. The Continental soldier could now move fast. Traveling light—with a 14-pound pack as compared to the British soldier's 60-pound pack—the Americans repeatedly proved they could cover 35 miles in a day. British General Howe had predicted the Continentals would be forced to admit that the British were invincible. He waited for that concession—in vain. The ragged survivors of the bitter winter at Valley Forge were resolutely getting primed for battle.

On Tuesday, March 10, an extra

NAMES OF SLAIN OFFICERS NEEDED

The Pennsylvania Game Commission is asking the public for help in obtaining names of former Game Commission officers who were shot and killed in the line of duty. Records indicate there were quite a few, but names are unavailable. The agency hopes to honor those who gave their lives to the cause of wildlife conservation. Anyone knowing the name of any such officer should contact the Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.

month's pay was issued to each soldier in camp as a reward for having stuck it out all winter, and to this was added "a tot of rum per man."

April at Valley Forge brought yet another token of encouragement: the shad were running. When the fish came as far up the Schuylkill (out of the Delaware) as Valley Forge, this indicated a run that would continue day and night for weeks. Spring freshets had not yet started; the water ran shallow, and it was possible to net fish by the thousands. Barrels had been held in readiness, and these were filled by the hundreds with salted shad for future consumption. Shad was looked upon as a poor man's fish, but the Continentals gorged on them.

May saw the rejuvenated military unit at Valley Forge earnestly making ready for contact with the British, who had spent a comfortable winter in Philadelphia—with plenty of good food, warm clothes, ample shelter, and even entertainment in the form of elegant balls and pageants. The British army band had fine trumpets, oboes, bugles, and even clarinets. The tattered Continental Army had only fife and drum. And yet . . .

Spirits were soaring at Valley Forge. The British had gotten word of the almost-incomprehensible regeneration of fitness and zeal at the hard-luck winter encampment, and the Redcoats grew increasingly uneasy. They decided to pull out of Philadelphia on June 16. With strategically timed precision, Washington and his army completed packing on June 18, and the next morning, with swinging step, drums beating, fifes loud, the men started for New Jersey—and the British! They were ready to continue their vital part in the fight for American independence. Without once looking back, they left behind the fortifications, huts, charred remains of their fires, rutted roads, trampled grass—and an imperishable memory.

Pursuing the British with dauntless determination that could only end in triumph, Washington's thoroughly retrained army overtook the Redcoats at Monmouth, N.J., and promptly suc-



ORIGINAL POTTS-HEWES house at the junction of Valley Creek and the Schuylkill River was used as general headquarters by Washington during the winter encampment.

ceeded in forcing them to flee to New York.

Monmouth was the last general engagement of the war north of Virginia, and the last battle in which Washington took part until he led the combined forces of America and France to the final victory at Yorktown in the autumn of 1781.

The winter of 1777–78, the long bitter winter that had so severely tested the mettle of the colonial troops, was finally over.

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PENNSYLVANIA'S PAST

By Chuck Fergus

*This month marks our nation's 200th birthday—
a fraction of a degree's turn in
the endless cycle of life and land.
In our brief history,
the land has changed drastically.*

I Give My Pledge

*We have logged, mined, built houses
and highways, dammed rivers.
Tied to these changes, and affected
by them, is wildlife.*

*In 1895, to protect and preserve this natural
resource, the Pennsylvania
Game Commission was created.*

*Game protectors were trained to enforce the new
game laws, and land was purchased and
set aside for wildlife propagation and public hunting.
As a result, our state's wildlife prospered.*

*Today, 1976, the Game Commission
continues to work for our wildlife and our people.*

*The following pictures show the reality
of past activity, and the conservation creed
sets forth the ideal we continue to strive for.*



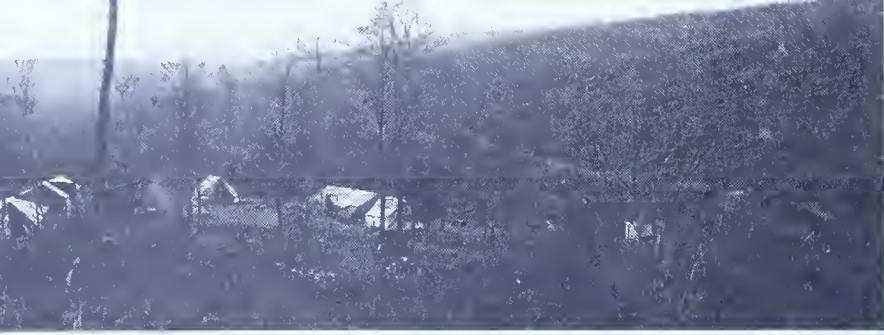
THE TREES that the settlers found were big. Much of northern Pennsylvania was covered with towering hemlocks, and the lumber industry boomed in this region. Log loader, above, was used to load peeled hemlocks onto flatcars.

As an American . . .



LOGGING INDUSTRY spurred growth of towns in the north; large sawmill is shown above in a 1915 photograph. Centre Co. white pine, left, contained over 5000 board feet. Picture below is of tow path, log slide and landing.





AFTER THE logging ended, the forests grew back in brush. This is a planting camp in the Ole Bull State Forest, Potter Co., 1918. Workers re-planted many trees in this region.

To Save and Faithfully



BRUSHY, reverting forest lands supported fantastic numbers of small game birds and animals, as shown by photo left above, the results of a two-day hunt near Apollo, Armstrong Co. Forestry operations at Mont Alto nursery are shown above.



STREET and roadbuilding were a bit rudimentary. Above is view down the Main Street of Wellsboro, Tioga Co. At right, a steam engine belches vapor as construction crew takes a breather. Photo was taken in Butler Co., Centre Township, in 1907.





FIRST Pennsylvania game protector, Joseph Berrier, is the taller of the two men in the picture above left. Beside "Big Joe" is his son, John D. Berrier, one of the Commission's first deputies and later a game protector himself. Above, deer are stocked at a game refuge near Norwich, McKean Co., in 1922. Left is the Clark's Ferry Bridge over the Susquehanna north of Harrisburg; picture was snapped in 1921, when the bridge was a covered structure.

to Defend from Waste . . .

1927 WAS the year, whitetail deer the quarry, when picture below was taken. Sign on truck reads "Dents Run Railroad Co." Winter scene, right, was in Cook's Forest.





COMMISSION employes Harry Van Cleve and Chauncey Logue, at left in picture on left; log structure is a bear trap. In photo at right are Refuge Keeper Elmer Alexander, DGP Ralph McCoy and an unidentified deputy.

The Natural Resources of my Country—



SCENES FROM the Game Commission's Training School at Brockway: left, studying the Game Law in 1933; above, School's staff.



FIRST CLASS graduated from the Training School is shown above in 1937. On the left is an unusual photo of two bull elk crossing a railroad bridge near Portage, Cambria Co. No date given for this one.



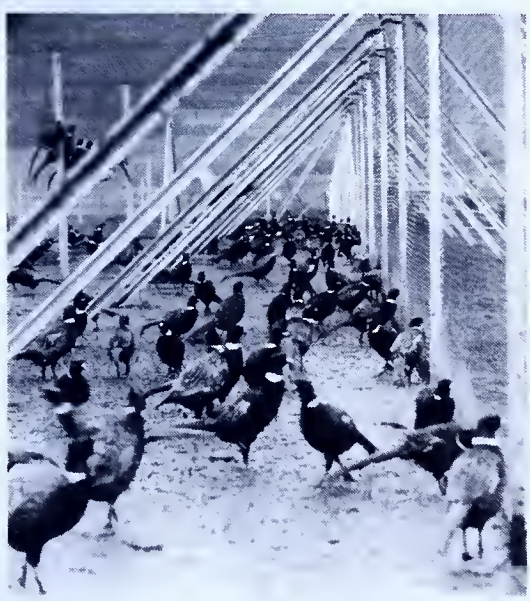
COMMISSION'S Farm-Game Cooperative program has, since its inception in 1936, opened well over 1½ million acres of farmland to deer, small game hunting.



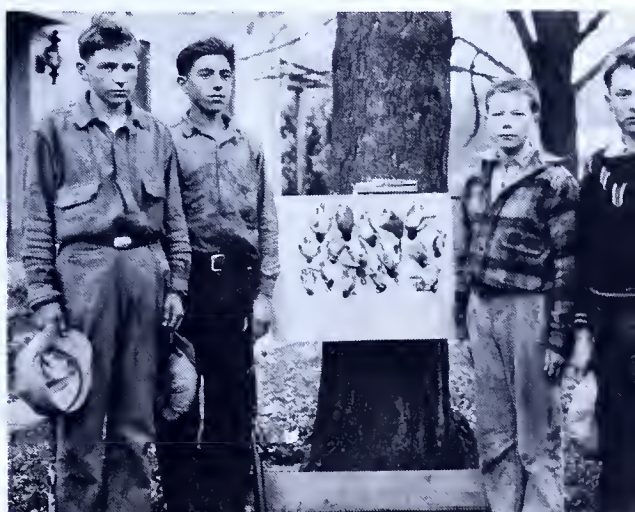
IN 1924, the Board of Game Commissioners took a boat trip to inspect a proposed waterfowl refuge on Long Pond, Presque Isle, in Lake Erie.

Its Air, Soil and Minerals

RINGNECK pheasants, below, were hatched at the Loyalsock Game Farm. Later, they were herded, caught and crated for shipment to various other sections of Pennsylvania. Today, our state has a thriving pheasant population.

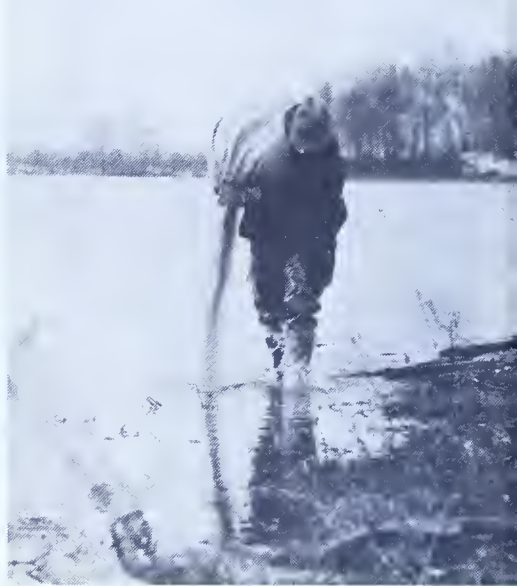


VARIED TYPES of law enforcement: above, deer taken in 1936 are checked along a Clinton Co. highway; below, four young boys arrested for killing protected birds in Lackawanna Co., 1928.





ABOVE, PGC personnel sort deer harvest reports following close of 1938 season. That year, only antlerless deer were legal game. At right, rice planted at Pymatuning waterfowl area helped attract and keep ducks.



Its Forests, Waters and Wildlife.



GEORGE KOEHLER, PGC exhibit specialist, shows young peregrine falcons in a picture taken in the 1940s. Above, DGP Jack Haverstick uses corn to bait live trap for pheasants.

CAMERON Co. DGP Norm Erickson confers with local logger on a case in the 1950s. Erickson is still game protector in Cameron, works out of Emporium.



Early-Days Hunting

By Roger M. Latham

MAN HAS BEEN a hunter almost since the dawn of his existence.

Before he learned to use tools, even clubs and stones, he must have lived largely on vegetable matter, much as the great apes do today.

But then, he learned—first to use some convenient club or stone to bring about the demise of his slow-witted, slow-footed prey. For his first “kills” would have to be slow and somewhat less than alert to be approached closely enough for this kind of encounter.

Probably man did not become truly enthusiastic about meat as food until he finally discovered how to cook it, and no one knows how long that took. Once he had tasted cooked meat, chances are he was “hooked.”

Then he began to hunt animals in earnest. How frustrating it must have been for him to look upon the grazing herds, the flocks of waterfowl and the upland birds and all the other things which were too swift, too smart or too large for him to risk attacking.

But man has been intelligent for a long, long time and the brains of the primitive must have worked overtime to solve the problem of procuring meat. His first attempts surely must have been the obvious ones. He undoubtedly threw a million clubs and rocks at animals of all kinds before he decided in frustration that this was not a very effective way to stock his larder.

But in the throwing he discovered that a long slender stick with a pointed end worked better than just any stick. It could be thrown farther, more accurately and was far more likely to kill than was a piece of limb. He may have discovered, too, that specially shaped sticks would travel at greater speeds and deliver a knock-out blow. Thus, the boomerang was born. It was undoubtedly thousands of more years before he “discovered” the sling, the bow and arrow concept, the snare and the deadfall.

When Europeans arrived in what is now Pennsylvania the native Indians

were using most of these “advanced” methods of taking wild animals. Certainly the Indian was adept with the bow, even though its accuracy and power could not compare to modern-day archery equipment. The Indian also knew about the snare and the deadfall.

The earliest settlers brought with them a crude firearm called the matchlock. This took minutes to prepare to fire, required a wick burning in loose powder, and with luck he might hit a deer at 40 to 50 yards. Even then, the single ball, or loose shot, might or might not kill the quarry. The matchlock certainly was not a quality hunting arm!

Yet, with these, Pilgrims shot turkeys and deer, and settlers all along the Eastern Seaboard used them for defense against Indians and wolves. To prepare one, the hunter poured black powder into the muzzle end of the barrel and tamped lightly with the ramrod. A ball and wad (or shot and wad) were pushed in on top of the powder. Fine powder was then poured onto a priming pan on the outside. To fire the gun, he touched a wick to this powder. The flame passed through the hole in the barrel and ignited the powder inside.

Perfect Aim

Needless to say, it was necessary to hold the rifle at perfect aim while all this ignition procedure was taking place! The other drawback was that it was first necessary to start a fire with flint and steel before the wick could be lighted, because there were no friction matches in those days. What a system!

But as time progressed, Pennsylvania gunmakers developed the famed Pennsylvania rifle, more commonly known as the Kentucky rifle. At first they were flintlocks and then percussion locks. The flintlock utilized a square of flint which struck a piece of steel and produced a spark. This spark ignited the powder on the pan.

The percussion lock, the final step

before breech-loading cartridges, used a small cap primed with a fulminate as the means of ignition. This eliminated the "flash" associated with the powder in the pan and gave the hunter a far better advantage over wary wildlife.

The first Pennsylvania fowling pieces (shotguns) were produced in the late 1700s, but the true "Golden Age of Shotgunning" came about the last 30 years of the 19th century. This was when the hunter with his trusty double barreled shotgun began to shoot with accuracy and dependability.

Shooting for Sport

And during this period, the "etiquette" of field gunning came into being. For the first time in history, the shotgunner frowned upon shooting at game birds unless they were on the wing. In other words, these new sportsmen were now shooting as much for sport as for meat.

But until this time, meat and profit were the true motives behind hunting for most men. There are accounts of hunters of these early days who compiled a lifelong list of game and furbearers which is next to unbelievable. There was John Hutchins of New York, for example, whose record was as follows: 100 moose, 1000 deer, 10 caribou, 100 bears, 50 wolves, 500 foxes, 100 raccoons, 25 wildcats, 100 lynx, 150 otters, 600 beavers, 400 fishers, mink and marten by the thousands and muskrats by the tens of thousands. Obviously, the well rounded figures could not be exact, but even if all figures were cut in half, the total would still be staggering.

One of the best chronicles of this early age was written by Philip Tome. In his book *Pioneer Life, or Thirty Years a Hunter*, he tells of Pennsylvania during the period from about the 1790s to the early 1800s, with emphasis upon hunting. His exploits took place mainly in the region from the Pine Creek area near what would now be Jersey Shore and Lock Haven westward to the upper Allegheny and the Clarion. When Tome's parents moved to Pine Creek from the Harrisburg area, the country abounded with elk, deer and bears. There were

also many wolves, mountain lions (panthers) and foxes.

Tome tells how they hunted deer at night from a canoe. They would build a fire of pitch pine on sand in the middle of a large canoe, place one man in the stern to steer and one or two in the bow to shoot. When deer were sighted, the canoe was guided noiselessly right to them. Often three or four would be killed in one spot.

On the same float-hunt, they would spear eels, salmon and rockfish (striped bass), and would often bring home enough meat to feed a family for two months. To preserve it, the venison was made into jerky and the fish was salted or smoked. Salt was a mainstay of the early settler, as there was no refrigeration except nature's own in the wintertime.

The woodland elk, now extinct, was extremely abundant at that time. This was Tome's favorite game animal and he pursued it relentlessly and killed hundreds of them in his lifetime. He even captured a number of them alive, because they brought a good price for zoos, parks and menageries. Many of the elk hunts lasted for days and extended over a great many miles. Often the hunters were followed by wolves, bears and even panthers, which seemed to know that the entrails, the head and other parts would be available once the elk or deer was butchered. The bobcats also made use of this waste meat.

Since a lot of the hunting was done in warm weather, Tome and his cohorts found rattlesnakes to be a problem. Evidently, they were very abundant in the Pine Creek region and over most of the other parts of that wilderness. Pioneers often burned the woods in May after the forest "greened" to destroy or disperse those snakes which lived close to their cabins. The Cornplanter Indians traveled almost exclusively by canoe during the warmer months because of the great numbers of snakes on the trails.

In 1800, Tome accompanied three other men on an elk hunt which they expected to last about six weeks. They left on the 12th of October in a canoe loaded with supplies, including six bar-



rels for packing the dried jerky. They traveled up Pine Creek to an area called Big Elk Lick at Big Meadows. On the second day, they saw seven elk in the river eating aquatic weeds. They let the dogs loose and soon had two elk killed. A little later, another was shot.

After the meat was removed from the bone and cut in strips for curing, the hunters broke the big bones and removed the marrow. The marrow and the fat around the kidneys weighed 45 pounds. In those days, fat was a very important part of the pioneer diet.

The next day, they killed two more cow elk and, with the meat in the canoe, continued to their destination near Big Elk Lick. There they rendered out the fat, salted the meat and erected a log cabin. Several days later, two of the men set out with two weeks' provisions for the Lick. When they arrived, 47 elk were in view. They shot eight and quit firing because they had only a bushel of salt with them. In the meantime, the other two men hunting in another direction had taken three more.

Tome tells of taking some elk tracks by himself the next morning and following until almost dark that night. He had to spend the night on the trail and said

it was the most "dismal" night he had ever experienced.

In his own words: "The wolves flocked around me in droves and their unearthly howling made a concert of sound that banished sleep from my eyes the greater part of the night. I sat in my leanto with my gun in one hand and tomahawk in the other, and a knife by my side. When the wolves became unusually uproarious, I would send the dog out to drive them away, and if they drove him back in, I would fire among them."

60 In Herd

Tome believed the most favorable time to hunt elk was in August. At that time, they were bunched together, very fat, and bugling. He sometimes saw as many as 60 in a herd.

When the dogs were turned loose, the bulls would stand and face them, thus permitting the hunter to approach close enough for shooting. Usually, several could be dispatched without having the herd leave.

At this time, bear meat brought a much higher price than elk meat. Bear oil and bear skins were also in great demand. Consequently, if the hunter saw a fresh bear track when following an elk track, he would always leave the elk track and follow the bear. Sometimes they would kill three or four bears on one hunt. They seldom failed to get a bear once they found a good track. Their dogs would either drive it up a tree or bay it on the ground.

Tome claimed that his brother killed 25 to 30 elk and 20 to 25 bears each year. He took about 70 elk in his best season.

In October, 1823, Tome set out with three other men from Kinzua on a hunting and fishing float trip down the Allegheny. They were using a freighter canoe capable of carrying about three tons. They took four dogs and a large seine. At the Big Bend below Kinzua they netted several barrels of fish, including salmon, muskellunge, pike, and white and yellow bass.

At Glade Run, two miles above Warren, they caught two more barrels of fish and shot two deer. At Dunn's Eddy



BEAR OIL and bear skins were in great demand in the early days, so a hunter would always leave an elk track to follow fresh bear tracks. Dogs were highly useful for such hunting.

below Warren, they took two more deer. Three miles below that, they caught two more barrels of fish, among which were some immense muskellunge.

At White Oak Shoot, 14 miles farther downstream, they shot two more deer. At this point they set their net and figured they had close to 30 barrels inside it. However, the net tore and they lost all but 10 barrels.

Altogether, on this float from Kinzua to Franklin, they shot 67 deer. This was Tome's last hunting expedition.

There were many more like this rugged pioneer who believed that the game was there for the taking. They killed for meat for themselves and for their families and to make a living otherwise. The hunter, like the trapper, considered the supply to be endless.

But the supply was not endless and six kinds of game and furbearers disappeared in Pennsylvania by the turn of the present century. It appears that the woodland bison was gone by 1801; the wolverine by 1863; the mountain lion by 1871; the elk by 1875; the wolf by 1890 and the marten by 1903.

But the significant point to remember is that none of these animals was extirpated by sport hunting as we know it today. Now game populations are carefully monitored and the annual harvest is controlled to make sure that hunted species remain secure.

The hunter of today still appreciates meat—venison steak, roast duck or pheasant, or squirrel potpie. But the real sportsman does not let his stomach dictate his conservation ethic. Today, he demands protection for those birds



DURING TOME'S most dismal night, wolves flocked around in droves, their unearthly howling making a concert of sound that banished sleep for the greater part of the night.

and mammals which appear to be threatened, or diminishing, for one reason or another.

And this modern-day hunter is willing to sacrifice his days afield and his roast duck, if necessary, to preserve this beautiful heritage called wildlife. And he is just as willing to contribute his money, and often his time, to protect and restore habitat.

That's because he knows that the loss of habitat is the greatest enemy that wildlife faces in every part of the civilized world.

Game Commission Thanks Contributors

The Game Commission wishes to thank those individuals and organizations who have generously donated money to the Game Fund. These concerned citizens have certainly done their part for conservation in Pennsylvania. The Commission is permitted to accept donations from any person, association, corporation or firm. Contributions go toward purchasing public hunting lands, which can be used by hunter and non-hunter alike, and for other wildlife management uses.



PENNSYLVANIA—

A Great Place to be Outdoors!

By George H. Harrison

“**H**HEY, DAD, if you had a choice of living anywhere in the world, where would it be?” my 13-year-old son asked me.

Without even thinking, I answered, “Pennsylvania. Why?”

“I thought so,” he said. “I just wondered if you still felt that way.”

Peter was just three years old when we moved from Camp Hill to Wisconsin. Though the past 10 years have made us Wisconsinites, there is still a yearning to be back in Pennsylvania. We still own a cabin in the mountains of Huntingdon County and get “back East” several times each year to recharge our batteries. The moment we cross the Ohio line into Pennsylvania, a cheer always comes from the back seat and there is a quieter but equally warm feeling in the front seat. We’re home again.

My strong attachments for the mountains, ravines, the fast-moving streams, the old fields and the lush woodlands of Pennsylvania, despite my nonresident

status, qualify me to describe the virtues of Pennsylvania . . . perhaps even better than most residents. Though born, reared and educated in Pennsylvania, I believe my 10 years away have given me a more objective point of view. During this period, I traveled on five continents and visited 28 countries. I have often compared Pennsylvania with other parts of the world, and Pennsylvania fares well.

Of course, Pennsylvania means different things to different people, but to the readers of *GAME NEWS*, Pennsylvania’s outdoor heritage is a common bond. During this Bicentennial Year, we are examining all aspects of the American scene, and certainly Pennsylvania’s natural beauty and outdoor recreational opportunities are among those to be appreciated.

It is my intent, therefore, to mention a few of the things I think make Pennsylvania a great state in which to live. And I don’t mean just reside, I mean to really live!

I can think of dozens of reasons why Pennsylvania is a great outdoor state. High on the list are its geographic location and physical features. The Appalachian Mountains, the Allegheny Plateau and the Appalachian Valley give the state a variety of altitudes ranging as high as Mt. Davis's 3213 feet, and the climate varies somewhat from that of the deep woodlands of northern Pennsylvania to the more southern atmosphere of the farm and orchard lands along the Maryland border. There is a rather sharp contrast, particularly in winter, between the snow depths along the mountain ridges of the Allegheny Front to the flatter "Dutch country" in the southeast. Though positioned fairly near the ocean, Pennsylvania's weather usually comes from the west. This so-called continental climate creates some extremes of cold and heat, but not as intense as in the central and mid-western states.

Return to Huntingdon

Consider spring, for example. I have returned to Huntingdon County nearly every spring since I left. I can assure you that the phenomenon of spring in Pennsylvania is unsurpassed anywhere in the world. The transition of the black winter woodlands into a fairyland of flowers, singing birds and new life is something to behold. Much of the rest of North America, particularly the mid-west and far west, experiences a more sudden, but less dramatic, change from winter to summer . . . sometimes in a matter of a few days.

For the sportsman, spring in Pennsylvania is a time for gobbler hunting and trout fishing. For others, it is a time for a walk in the woods to see if the spring beauties are up, the warblers are back, or the spring peepers are singing in nearby wetlands.

For the dedicated trout fisherman, spring means fishing and little else . . . and the opportunities are endless. This year alone, the Pennsylvania Fish Commission, with some help from the federal government, will stock 4.6 million legal-size trout, averaging over nine inches, in 91 lakes and over 900 streams. When you add all the warm

water fishes stocked, plus the coho and chinook salmon in Lake Erie, the total of fish released in Pennsylvania waters will be over 50 million this year. That's a lot of fish, and a lot of recreation. The Fish Commission has also developed opportunities for those purists who prefer their fishing in wilderness streams. Through cooperative agreements, native brook trout are being protected and managed.

Hunting turkey gobblers in the spring is my bag. I have not yet taken one and perhaps never will, but that's beside the point. I know where they are and many times have crouched on the side of a mountain listening to them call. Sometimes I've been as close as a couple of hundred yards, but I've just never had the opportunity to shoot one. However, the rewards for me are many. To sit in the spring woods with pine, black-throated green and Blackburnian warblers overhead, with serviceberry and redbud trees in full bloom all around me, and that incredible smell of spring in the air . . . what more could a man ask for?

Pennsylvania's summers are unique, too. There is a lushness to its mountains and a richness to its bottomlands. Summer is a time for hiking, boating, camping, picnicking . . . any excuse at all to get outdoors. There is so much to do out of doors in the summer that it is no



PHOTO TAKEN IN 1932 shows old stone mill at the foot of Haycock Mountains, Berks County. Such things are direct reminders of our past, help keep us aware of our heritage.



EVERY SEASON provides reasons for getting outdoors in Pennsylvania, a snowy January day being as stimulating in its own way as the golden sun of July.

wonder travel and leisure make up the state's third largest industry. More than half of Pennsylvania's 44,832 square miles are still covered with forests!

For the boater, Pennsylvania's many rivers and lakes are a tremendous asset. The Fish Commission has developed hundreds of facilities along major natural and manmade waterways, just to make boating and fishing easier and more fun.

Hiking in this state has boomed in recent years. A total of 4700 miles of foot trails, including 214 miles of the nation's most famous, the Appalachian Trail, is available to hikers. Other well known trails include the Horse Shoe, Warrior, Kittanning, Loyalsock, Old Traders Path, and Brandywine. But you are not limited to these long and well-established trails. There are thousands of others in the state's 102 operating recreation areas. Cook Forest State Park alone has 27 miles of hiking trails, some through virgin hemlocks and

yellow pines. Camping, picnicking and swimming are also provided in these parks for everyone to enjoy.

When I think of summer in Pennsylvania, I remember not only the woodlands and wildlife, but also such things as covered bridges and the Amish people with their horses and buggies. Of some 1500 covered bridges left in the U.S., about 300 are in Pennsylvania, though not all of these are open to traffic.

Unique scenery is everywhere in the state, even underground. Centuries ago, underground streams hollowed out caverns in the limestone deposits at various places beneath the surface of Pennsylvania. Nine commercial caves and many more wild ones, all different, dot the state from the southwest corner to the Pocono Mountains.

The best time of the year in Pennsylvania may be autumn. There is electricity in the air in autumn. The nights are crisper, the days clearer, the scenery at its best. It's a time of urgency, a time to prepare for harsher days. It is also a time for migrating birds, a time of harvest, and the time of the hunter. No matter what your hunting interest is, Pennsylvania has it. Best known for deer, turkey, rabbit, squirrel, grouse and pheasant, Pennsylvania hunters also enjoy fine waterfowl, dove, woodcock, woodchuck, and even quail hunting.

Newcomers are always amazed at the great amount of land open to public hunting. Through the Pennsylvania Game Commission, the sportsmen of this state as of this writing have purchased 1,171,836 acres of Game Lands, including 17,528 acres purchased with Project 70 monies. But that's only part of the story. Another 1,969,882 acres of public hunting lands are open through the Cooperative Farm Game program, 2,004,006 acres in the Safety Zone Program, 514,784 acres in the Cooperative Forest Game Program, 2,000,000 in State Forest Lands, 495,773 acres in the Allegheny National Forest and 7585 acres in other programs, giving the Pennsylvania hunter well over 8,000,000 acres of open land.

But all that hunting land means nothing unless there is something to hunt. And indeed there is! Pennsylvania's deer herd is known to every deer hunter in the world. In recent years the number of deer legally taken here has exceeded the 125,000 mark each season. There are so many deer in Pennsylvania that state motorists accidentally kill more on the highways than many other whitetail states harvest during their regular hunting seasons—29,914 in 1975!

Midwesterners often smile suspiciously at me when I tell them about the pheasant hunting in Pennsylvania. That is, until I give them some figures about the hunter successes, particularly in the southeast. Then they are amazed. Pennsylvania's reputation as a grouse, squirrel, rabbit and particularly turkey hunting state is better known and widely respected. Many other states owe the success of their wild turkey flocks to Pennsylvania breeding stock.

Pennsylvania takes no back seat in the field of waterfowl either. Its highly successful Pymatuning Goose Management Area in the northwest, and recently developed Middle Creek Management Area in the southeast, are showcases for all of eastern United States.

Added up, Pennsylvania's abundance of game and unequalled public hunting program explain why 1,244,193 hunting licenses were sold in the state last year, the most in the nation.

Autumn is also a time for hawk migrations. Perhaps the best place in the world, certainly in North America, to watch migrating hawks is the Hawk Mountain Sanctuary near Kempton in east-central Pennsylvania. On a single day recently I watched over 3000



JONATHAN RUN, a native trout stream near Ohiopyle, Fayette County, provides soul-satisfying beauty as well as outdoor recreation for visitors.

broadwinged hawks pass the North Lookout. Last fall alone, 31,000 hawks were recorded as they sailed past Hawk Mountain on their way south.

Though winter in Pennsylvania presents problems for active outdoorsmen, it is by no means a dull time of the year. Downhill and cross-country skiing, snowmobiling, ice fishing, winter hiking, camping and trapping are all popular sports among Pennsylvanians as well as visitors. Who doesn't enjoy a day in the winter woodlands followed by a few quiet hours in front of a fire? Certainly these are the times to count our blessings and to reflect on the glories of living outdoors in the great state of Pennsylvania.

Restrictive Diet

The Florida Everglade kite has become an endangered species because of its eating habits. The kite feeds almost exclusively on the freshwater apple snail, which has become scarce due to drought, fire and drainage of marshes for agricultural and residential development.

Pennsylvania Long Rifle

by NED SMITH

FOR GENERATIONS it's been known as the "Kentucky Rifle." The reference is to that wild country beyond the Alleghenies where it proved its worth. But it's really the "Pennsylvania Rifle," often called the "Pennsylvania Long Rifle," for Pennsylvania is where it originated and, with very few exceptions, that's where it was made. I guess it shouldn't matter, but it does. After all, that old flintlock not only was the first truly American firearm, but it also played an important role in shaping a wilderness into what is now the United States of America. And that's something we Pennsylvanians shouldn't shrug off.

The colonists didn't always have the Pennsylvania Rifle. Before the mid-18th Century they used anything with a hole in the barrel, including those firearms brought from the Old Country, those that could be imported (chiefly English and French smoothbores), and those fabricated by colonial gunsmiths of varying ability. Guns of the latter group were usually similar to popular firearms of the makers' native countries, most of them smoothbore muskets or fowling pieces. In Pennsylvania, however, where most of the gunmakers were of German or Swiss descent, they made copies of the short, heavy, large-bore German hunting rifles we now call jaegers.

Neither Smoothbore Nor Jaeger

As trailbreakers probed the wilderness farther and farther from civilization, it became apparent that neither the smoothbore nor the jaeger was a good frontier arm. The smoothbore, which could be loaded with anything from balls to buckshot, found favor in some areas because of its versatility, but it fired its loose-fitting ammunition too weakly and too erratically to be a

dependable slayer of deer, Indians, or other backwoods targets.

The jaeger was accurate, but its large bore, in some specimens exceeding .75 caliber, consumed great quantities of lead and powder. Not only were these commodities scarce and expensive, but their weight was objectionable on a wilderness journey afoot. Furthermore, the jaeger's bulk and weight made it inconvenient to carry on long treks through Indian country. Nevertheless, the jaeger came closer to the woodsman's ideal than the musket, and there is little doubt that it was the ancestor of the Pennsylvania Rifle.

No one knows exactly how the Pennsylvania Rifle came to be, but it probably evolved in the shops of certain Lancaster County gunsmiths as various features of the traditional jaeger were altered or discarded at the suggestion of men with backwoods experience. History does not record who made the first one, but in the past several writers gave that distinction to Martin Meylan, a Swiss Mennonite who is said to have been the first settler in Lancaster County in 1710. More recent investigations have failed to substantiate the claim for Meylan. Several historians, among them one of Lancaster County's most distinguished authorities on Pennsylvania Rifles, feel that the laurels should go to one Mathias Roesser, who bought a lot in the city of Lancaster in 1740. At least no earlier Kentucky type flintlocks than those of Roesser's have been found, according to these investigators.

A gun signed and dated by Roesser in 1749 is the earliest authentically signed and dated Pennsylvania "Kentucky" known. Other pre-Revolutionary makers of Pennsylvania Rifles in Lancaster County were Phil LeFevre, a neighbor and probably an apprentice of



PAUMotu, Tonga, 1890.



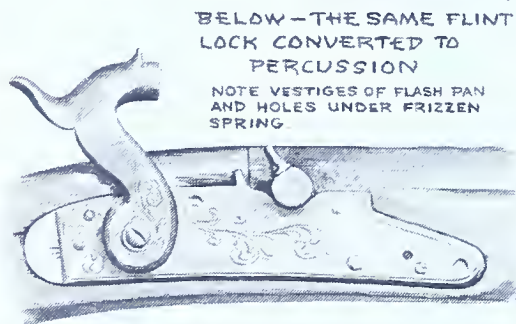
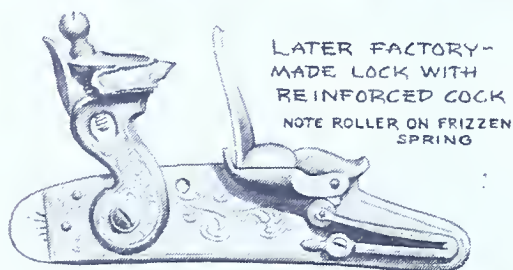
Long Island, Ithaca, Pa. PENNSYLVANIA, 1890.



Long Island, Ithaca, Pa. PENNSYLVANIA, 1890.



Long Island, Ithaca, Pa. PENNSYLVANIA, 1890.



Martin Meylin, Peter Gonter, Jacob Ferree, and William Henry, the latter a famous gunmaker who eventually turned out arms in quantity for both the French and Indian War and the American Revolution.

Few pre-Revolutionary Pennsylvania flintlocks survive, but those that do exhibit evidence of their jaeger ancestry in the full-length stocks, the sturdy buttstocks with nearly straight buttplates, and the preponderance of full octagon barrels. Many retained the jaeger's sliding wooden patchbox cover, the cheekpiece, and at least a vestige of the relief carving.

Where the Pennsylvania Rifle differs most obviously from the old German rifle is in its longer, slimmer outline. Instead of the jaeger's barrel of 24 to 36

inches, the new rifle might carry a barrel of from 45 to more than 50 inches in length, resulting in a longer sighting radius and greater velocity. Bore diameter, on the other hand, was reduced to effect a saving in lead and powder. Stocks were quite plain compared to later specimens, but many exhibited an inlay on the cheekpiece or wrist. A new and unique hinged brass patchbox cover that couldn't be lost began to appear. Carrying slings were eliminated; the new rifles were customarily cradled on the arm where they could be quickly brought into play. A few locks were imported, usually from England, but most were hand forged by the gunsmith himself. They were characterized by a widely beveled lockplate with a long point at the rear. The cocks were of the gooseneck type. For some inexplicable reason, these early rifles were rarely fitted with the double-set triggers which permitted reducing trigger pull to a mere touch, although such triggers were common on both the better jaegers and later "Kentuckies."

In Great Demand

The new rifle was not long in catching on, and Pennsylvania rifleshooters were soon hard-pressed to keep up with the demand. Of course, the primitive hand methods used by these craftsmen did little to speed production. Barrels were formed by folding red-hot flat iron bars around a rod called a mandrel and welding them into a rough tube. The tube was forged into octagonal shape, then ground smooth on a foot- or water-powered wheel. The bore was trued with a series of "bits," actually reamers turned by hand like a brace and bit. A cutter rotated by a spiral wooden guide as it was pushed back and forth through the barrel cut the rifling grooves. Stocks of well-seasoned hard maple (occasionally cherry, apple or black walnut) were shaped with razor-sharp planes, drawknives and chisels, and finished by rubbing with lampblack and oil.

Locks, including springs and screws, were either purchased ready-made or forged in charcoal fires by the gun-

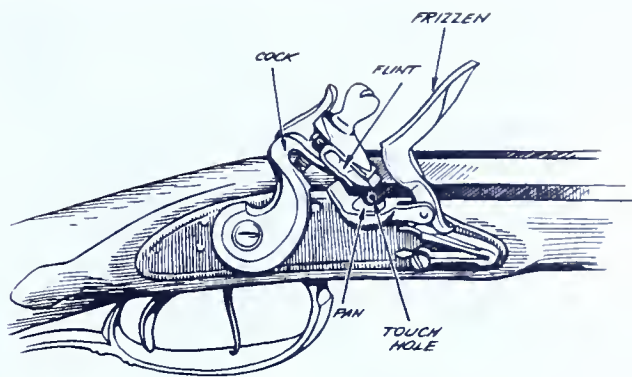
smith. The brass trigger guards and buttplates were either bought in the rough or were cast in sand molds and finished.

Many of the simple hand tools we know today were non-existent at that time. Even hacksaws were unknown; metal was largely shaped on the anvil or filed to form. Twist drills were not in use; most rifleshoots used braces or bow drills that simply scraped their way through metal. But for all their laborious techniques, these men made superb firearms, and before long practically every man on the frontier and beyond had one.

Muskets Wanted

None too soon, it turned out, for with the onset of the Revolution the "Kentuckies" ceased to be made, at least for the duration. Muskets were what the military wanted—sturdy, fast-loading, bayonet-equipped muskets—and the gunmakers throughout the Colonies complied. By this time the rifleshoots of Pennsylvania were so renowned that Committees of Safety in adjacent New Jersey had many of them under contract to produce muskets for them, until a law was enacted prohibiting the shipment of firearms out of Pennsylvania.

At the outset of the Revolution, rifle companies consisted chiefly of backwoodsmen who provided their own arms, and their well-publicized feats of marksmanship did not go unnoticed among the British troops. In time, however, their psychological impact became tempered by the realization that the rifle did indeed have its shortcomings as a military arm. In spite of much that has been written, most fighting of that day was conducted in the open between lines of soldiers facing one another and firing on command. Hitting the enemy with as many volleys as possible before closing in for hand-to-hand combat made rapid reloading all-important. With a musket's loose-fitting ball, at least two volleys could be poured into opposing ranks; with the rifle's patched ball only one could usually be assured. But the charge that followed revealed the rifle's most tragic



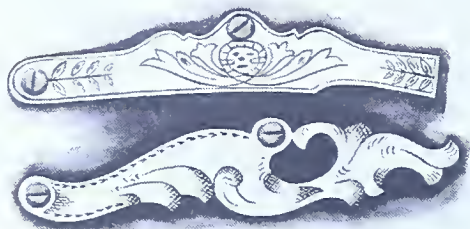
FLINTLOCK in fired position. After loading powder and patched ball into barrel, cock is pulled back to half-cock position, pan is filled with priming powder and closed by lowering frizzen.

shortcoming—the lack of a bayonet. Riflemen, with no time to reload, were forced to face 18 inches of cold steel on the ends of the enemy muskets. More battles were decided by hand-to-hand combat than by the haphazard volley fire that preceded it, and long-range accuracy, the rifle's forte, couldn't even the score.

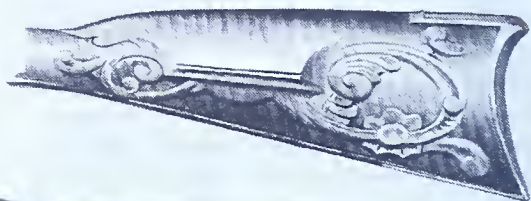
The Pennsylvania Rifle did play a significant role, however, when used to best advantage. In decimating England's Indian allies, in sniping, and in scouting it was unexcelled in experienced hands. General Daniel Morgan, himself a rifleman, put riflemen in the front lines with the militia, backed by a line of regulars. There they inflicted their specialty on the advancing Redcoats at long range, then dropped back to let the regulars take over. This strategy contributed mightily to Burgoyne's drubbing at Saratoga, and was equally successful at King's Mountain and Cowpens. But the long rifle's days as a military weapon were numbered. Though unsurpassed as a wilderness hunting arm, it was out of its element on the battlefield. None could deny it had made its mark in the Revolution, but it was firepower and bayonets that won the war in the long run.

It is a tribute to its inherently sound design that the Pennsylvania Rifle quickly regained its popularity once hostilities ceased. More gunsmiths than ever before were building them and, except for a small number of plain

ARTISTIC DETAILS FROM PENNSYLVANIA FLINTLOCKS



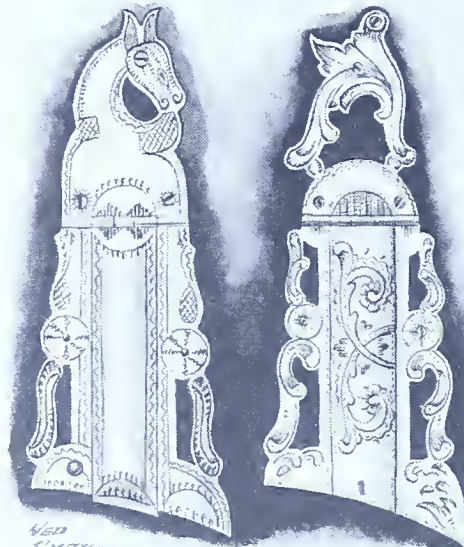
SIDE OR BRIDGE PLATES



CARVED STOCKS



LEFT-CHEEKPICE INLAIS



PATCHBOXES AND PATCHBOX "HEADS"



"southern" rifles and New England "half-stocks," the Pennsylvania Long Rifle soon became the standard firearm of frontier riflemen everywhere. Competition between rifleshoots resulted in superior workmanship and the period from the Revolution to 1820 or 1830 is now known as "The Golden Age of the Kentucky."

A typical turn-of-the-century Pennsylvania flintlock was a thing of beauty. It boasted a full-length stock of fine hard maple with fiddleback grain throughout. The buttstock was more slender, the buttplate more concave than pre-Revolutionary rifles. The buttstock around the cheekpiece was embellished with tastefully done scroll carving in relief, with a touch of carving around the upper tang, lockplate, and tailpipe. Inlays of silver usually consisted of an oval wrist inlay and on the cheekpiece either an eight-pointed star, a crescent, or an oval engraved with an eagle design. The more ornate

had a comb inlay, a fore-end inlay, and a small oval escutcheon around each barrel key. The fore-end cap, tailpipe, and ramrod thimbles were beautifully fashioned from sheet brass; the buttplate and trigger guards were brass castings, filed and polished.

By this date the brass patchbox was universal on Pennsylvania Rifles, and because it lent itself so well to artistic treatment it became this rifle's most interesting feature and a showcase for early American folk art. The outline itself might represent anything from an animal to C-scrolls, and the engraving was limited only by the skill and imagination of the rifleshoot. Interestingly enough, many of these rifles had concealed releases for the patchbox lid. To open them it was necessary to depress a dummy screw head on the buttplate, the corner of an inlay, a flat button camouflaged as a part of the engraved design, or some other secret spot.

The barrel on a typical Golden Age Pennsylvania Rifle was a full octagon, 42 to 48 inches in length, often with the maker's name engraved on the top flat. Locks were no longer hand forged. Most were purchased from lock makers in Philadelphia, New Orleans or London. The rear end of the lockplate was stubby, sometimes rounded, and the frizzen spring had a small roller. Most rifles now had double-set triggers. By this time only the most accomplished gunsmiths made the entire rifle. Others bought parts from specialists who made only barrels, locks or brass fittings, for instance. Some craftsmen did nothing but rifle barrels or engrave inlays. For this reason, the signatures on barrels, locks, etc., might identify the maker of that particular part, rather than the maker of the entire gun.

By the end of the early 1800s, these splendid rifles were being made far beyond Lancaster County's borders. York County probably had as many first-rate riflemakers as any similar area, and many Pennsylvania Rifles were made throughout the southern part of the state and adjacent Maryland. Some of the best Pennsylvania makers were David Cooley of Adams County, Henry Albright, Jacob Dickert, and Jacob Ferree of Lancaster, John Moll of Allentown, Frederick Zorger and John Shriver of York, Henry Lechler of Carlisle, Christian Beck and Nicholas Beyer of Lebanon, Andrew Kopp of Blair County, Henry Koons, and John Lechner.

These men epitomized a great era in American gunmaking, but an era that was soon to end. With the passing of the frontier and the growing scarcity of big game, rifle shooting became less and less a way of life, and the rifles of that day began to show a corresponding

decadence. Stocks were increasingly spindly and crooked. Buttplates were deeply crescentic and trigger guards narrow and fancy. Fine fiddleback maple gave way to stocks of plain wood, often artificially figured. The handsome relief carving of an earlier period was replaced with less demanding incised carving, or none at all. In place of a few tastefully engraved inlays of silver, the later rifles were often garishly covered from butt to muzzle with plain inlays of cheap "German silver" or brass. Eventually the handsome rectangular patchbox degenerated into a round "pillbox"; the bridle plate became an insignificant escutcheon.

Even the flintlock ignition system itself was made obsolete by the development of a percussion system utilizing fulminate of mercury to ignite the powder charge instead of sparks from a piece of flint. Adding insult to injury, gunsmiths soon learned to convert flintlocks to the new percussion system by simply removing the pan and frizzen, screwing a drum and nipple into the barrel, and substituting a hammer for the cock. Eventually most Pennsylvania Rifles, including many prizes from the Golden Age, were converted, a fact still mourned by lovers of fine guns. Another thoroughly practical if almost sacrilegious alteration that followed the diminution of big game was the rebarreling of rifled barrels into smoothbores.

It is ironic that the superior percussion system made its debut at a time when gunmaking in the United States was degenerating. Some fine percussion rifles were manufactured, that cannot be denied, but for the most part they failed to reach the high level of materials, workmanship, and artistic expression that characterized the Pennsylvania flintlock rifle in its heyday.

Missing State Symbol

The official bird of Louisiana has vanished from its habitat. However, the endangered Eastern brown pelican is still found in Florida; efforts have been made to reintroduce the bird to the "Pelican State" at a site south of New Orleans.

AN HISTORICAL PERSPECTIVE

By Joseph B. C. White



WHEN THE FIRST European ships anchored on America's eastern coast, whether you accept the early voyages of the Vikings or not, this land was in the Stone Age, untouched by modern man.

Over the centuries, mankind had explored much of Africa, Asia and the corners of Europe itself, but never in the minds of explorers anywhere were there even dreams of the riches that lay dormant in the mountains, forests and prairies of North America.

The early explorers of primitive

THE APPARENTLY endless forests of the New World reinforced settlers' tendencies toward wastefulness. Generations passed before any thought was given to proper use.

Pennsylvania found great variety. The 45,000 square miles which became our state had great stands of pine, hemlock, beech, chestnut and maple. These densely forested areas were interrupted in many places by open areas in various stages of succession as other species of trees, shrubs and ground cover moved in to compete for the sunlight. These forest openings influenced the kinds of birds and mammals occupying the changed habitats. Streams and lakes held great populations of fish and other aquatic life. Repeated fires plus heavy grazing by elk and buffalo established large prairie-like grassland which persisted over long periods.

The influence of the Indian was minimal over the centuries. In the confines of his Stone Age culture and small numbers, fire was his greatest tool, whether accidental or intentional. (It is estimated that the number of Indians in what is now the continental United States was never more than one million and probably only about 800,000.)

Europe at the beginning of the colonial period was another story. Much of its forest lands had been cut and cleared. Population had increased rapidly, and even though great advancements had been made from time to time, agriculture was not yet a science and little thought was given to the consequences of resource management. This attitude prevailed in the New World, intensified by the apparently endless forests, potential farmland and abundant wildlife.

For a short period, new settlers hugged the coast, anxious to have the

sea at their doorstep so they might maintain their links with Europe or escape the dangers of the unknown interior. Gradually, however, trappers and explorers brought back reports of great expanses of land to the west and eager immigrants moved across the mountains. Some sought free farmland, others sought sanctuary from political and religious tyranny or the enslavement of indenture, while still others searched for adventure and a new life.

With the defeat of the Eastern Indians by General Anthony Wayne in 1795, western Pennsylvania was safe for settlement. The struggle for political independence had resulted in a new nation and the spirit of growth began in earnest.

The acceleration of natural resource problems has been a direct result of the great numbers of people who came to live in Pennsylvania. They cleared land for farms, settlements and roads. The rich land yielded fine harvests of corn, wheat, oats, and tobacco. But in the process fragile topsoil, built up by nature at the rate of perhaps one inch per thousand years, began to wash into the streams, affecting water temperatures and fish habitat. Human and animal waste from farm and town became an added load for streams to carry, and grew to monumental proportions. Yet the streams looked clean, forests stretched on to seemingly endless horizons, and if the consequences were observed by a few they were dismissed by the many.

There were early voices of warning. Thomas Jefferson had noted the depletion of soil strength after repeated plantings of tobacco; Solomon Drown warned of excessive grazing and timbering; John Wesley Powell reported to Congress on the land management problems of the arid West. All went unheeded.

The first crucial blow to land, streams and wildlife habitat in Pennsylvania was dealt by the timber industry.

From the 1840s through the early teens of this century, the great forests of white pine and hemlock were clear cut. Oak, beech and chestnut stands were cleared and burned. These and

other hardwoods were cut for charcoal to fuel the early glass and iron industries, and for lumber.

After timbering operations had moved on, the slashings left fuel on the ground which sped great wildfires across the northern tier of Pennsylvania, scorching the soil, changing its chemical makeup and leaving it more susceptible than ever to the natural erosion of wind and water. Silt by the millions of tons clogged streams, smothered fish, then rolled on to the sea.

Well On Way

By the middle of the 19th century, Pennsylvania was well on its way to becoming a great industrial state. The demands of a growing nation for iron, steel and manufactured products spurred the growth rate. More timber was cut, more farms were established, more towns were built. Cattle and sheep grazed where elk and buffalo had wandered. The timber wolf and mountain lion were nearly gone, the passenger pigeon's great flocks no longer darkened the skies, and the habitat of many other wild species shrank before the onslaught of a young nation caught up in wild, expansive dreams as unplanned as those of a drunken lumberjack.

Pennsylvania's rich coal seams yielded increasing tonnage to meet the growing appetite for fuel in industry and homes. Each new coal mine opened acid drains into watersheds, poisoning aquatic life, making the water unfit for use. It was the death blow for many streams, with little recovery even in our own time. The increased volume of untreated sewage added its lethal load so that by the turn of the century whole cities and towns felt the plague of cholera, typhoid, diphtheria and dysentery.

In the search for oil and gas, drillers spilled salt water and oil waste onto the land and into streams. They slashed any timber in their way and created muddy deserts of ugliness rivaled only by the coal mining centers.

Factories and towns spewed wastes into the waters and plumes of black

smoke into the air. We called it progress. In reality it was progress of a type, but at what a cost! Under the driving madness of greed and growth, accelerated by the tools of modern industry and commerce, we subdued a virgin land with a lust unparalleled in history. Rape is the only word to describe the action—unthinking, devoid of awareness for beauty and natural balance, caring nothing for the consequences.

As the 20th century began, thousands of miles of our streams ran with acid. Overgrazed farmlands had only vestiges of soil remaining, if any. Wildlife had been pushed into ever-tightening bounds of habitat. Thousands of square miles of timber land had been laid waste. Yet the bountiful natural treasury still yielded its stores of wealth and the myth of unending growth and opportunity was fed by greed and ignorance.

But the years of radical change had

LARGE HEMLOCK along the face of Biglaer's Rocks, Clearfield Co., is a reminder of the vast numbers of such trees which once covered much of northern Pennsylvania.



come and some thoughtful leaders began to speak out. George Perkins Marsh, Congressman from Vermont, wrote in 1864 that the directions America was taking had led to the demise of civilizations in the Old World. Theodore Roosevelt and Gifford Pinchot began an effort to save remaining timber in the western states and to institute reforestation practices learned from Germany and France. A handful of farsighted men initiated some forms of wildlife management. Yet, even these efforts came only after the slaughter of the plains buffalo, the extinction of the woodland bison, the eastern elk, the wolf, the mountain lion, and other species.

Slowly and Painfully

Slowly, painfully, the justification of managing and protecting the public domain became apparent, at least to enough leaders to pass the required legislation. By 1849, the U.S. Department of the Interior had been established, and by 1862 the Department of Agriculture. In 1872, Yellowstone, our first national park, came into being. In Pennsylvania, the Fish Commission was established in 1866 and in 1895 the Pennsylvania Board of Game Commissioners was created by the legislature.

With these beginning forces, the movement to protect and manage natural resources was underway. In its early struggles (and even today), the conservation movement had scorn and ridicule heaped upon it as an obstruction to progress and growth.

Through the first third of the 20th century, the old pattern was repeated. Industry expanded, population increased, farm production was so successful that the American farmer was hailed as the feeder of the world. Yet the basic problems grew and when the drought of the 1930s was added to the economic collapse of America and much of the world, the words of prophets of the past resounded with greater clarity.

It was a subdued nation that began to rebuild its land, its forests and its farms. Nature exacted a staggering toll from the resources and people. For

some, at least, the priceless treasure was taking on new meaning. Yet much of the sobering lesson of the 1930s was lost in the efforts the nation put forth in World War II. More coal was mined, this time including the strip method, gouging great masses of landscape, leaving behind abandoned workings which ruined more farms, polluted more streams, squeezed wildlife habitat tighter and provided a legacy of land reclamation debt that generations will be paying for.

In that same period, professional conservation came of age. Wildlife management, soil science, forestry, water treatment, flood control, park management, forest fire control and modern agriculture saw increased ranks of dedicated men and women devote whole lifetimes to rebuilding the land and its resources. In the years following World War II, the professional ranks grew in knowledge and numbers, and in places the tide began to turn a little.

The timber industry, once the great destroyer of forests, became a solid advocate of reforestation. The mining and mineral industries, under new legislative control, began to curb patterns of damage, learning as they complied that conservation was good business.

Still the myth of unlimited growth and progress persisted, and human nature craved the gadgets of "modern living." Automobiles poured out onto highways by the millions; new highways were outdated as soon as they were built; rusting hulks of worn-out cars were heaped high in junkyards beside the short-lived appliances of the good life. Suburban developments sprawled out from the cities, placing new demands on old sewage and water systems, pushing aside farms, demanding more space, more roads, more shopping centers, more fuel, more resources, more food—all at the lowest price possible. Today, the United States consumes more than one-half of the world's resources.

It took the shocking words of Pennsylvania's Rachel Carson, in her book *Silent Spring*, to bring together all of the threads of environmental damage, creating a new fabric of awareness for the whole world of nature man



MORE THAN HALF of Pennsylvania is now considered forested. This second growth timber grew largely on abandoned farms after early rural citizens moved to urban areas.

had invaded, changed, damaged and upset. Her main theme was pesticides and their long-term effects on the environment, but her total message was the interrelated web of nature and the need for man to understand it, respect it and live with it in harmony.

This year we look back over 200 years of nationhood. In the minds of some we tend to take ourselves too much to task, yet this is the time to set about planning a future which will see a decent life for coming generations.

We have seen great progress in the conservation movement, yet in our own state as well as in others and in the national government, resource conservation funding is almost never a high priority. So far, sportsmen have borne the burden of wildlife and fish conservation costs almost alone.

The future is not promising. Our hope is that enough Americans will learn the lessons of history in time to hold onto the resource treasure that was here virtually untouched 200 years ago. Whether enough of the treasure will be left to support the lives of our grandchildren depends upon the strength of will we exercise to protect their legacy from the same forces that depleted it in the past.

This course of action will be painful and distasteful to a nation accustomed to luxury. Yet a new approach, putting our resources in a high priority status and using them wisely, is the direction we must follow.



Hunting Beyond the Bicentennial

By John Madson

WHATEVER the future holds for hunting, good or bad, the hunter has probably got coming to him. If game management continues to enhance and regulate the game supply, it will be due to the financial, moral and political support of the hunter. If game management is corroded and weakened by political spoilers, it will be largely due to the inaction and indifference of the hunter—and his hunting will lose by default. Game management depends on the hunter, and the quality of hunting will be determined by the quality of the hunter, today and tomorrow. Whatever friends and allies he has, he'll have earned. And whatever enemies the hunter has, he'll probably have earned also.

A number of surveys have indicated that much of the so-called "anti-hunting sentiment" is essentially anti-hunter sentiment. There's a difference. Many of our critics are not opposed to the hunting of wildlife so much as the ways in which wildlife is hunted. They are not really against hunting in principle, but hunting in practice.

If there is good hunting in the future it will be because the average hunter has shown a greatly increased willingness to cause and support such hunting. In other words, a man who has largely abandoned the old myth of "free hunting" and has become willing to spend a great deal more in terms of some kind of coin: money, time, effort, or all three.

The greatest danger to hunting today is the chiseler who wants something for nothing. At no real expense of time or effort or money, he demands something to hunt and places to hunt it. He invests little knowledge in his act of hunting, and little sympathy or understanding of wildlife and its land base—and the genuine hunter ends up paying for it.

If there's such a thing as good free hunting, I've never seen much of it. The good hunting I've had has averaged

out costing a lot of time and effort—and some money, although I've usually had more time and sweat to spend than cash. Granted, the greatest benefit of good hunting is quality freedom in quality country. But in this lies the germ of hunting's own destruction, for too many hunters demand freedom without responsibility. It is this demand for freedom afield, without concurrent willingness to pay the costs of freedom, that can be the ruin of genuine hunting as we know it.

Now, a hunter may say, and understandably so: "Daily life has restrictions enough; I go hunting to find freedom and escape restrictions." However, this is impossible. The ethical hunter imposes special restrictions on himself when he goes afield, and a sure definition of the slob hunter is one who refuses to observe any restrictions in the course of his hunting, or accept any responsibility for his actions. This is an especially critical problem in hunting because, as Aldo Leopold pointed out: "The hunter ordinarily has no gallery to applaud or disapprove his conduct. Whatever his acts, they are dictated by his own conscience, rather than by a mob of onlookers."

"Arkansawing" Offends

I know a guide down in Stuttgart who is highly offended by the term "arkansawing" ducks. He's plumb opposed to shooting ducks on the water, and once told me: "A man who does a thing like that ain't got no heart—all he's got is a thumpin' gizzard." And there's the problem: how do you prevent a heart from becoming a thumpin' gizzard?

We can't think of a more immediate way than effective hunter safety training programs. Some states now have good programs in force and are working to expand and improve them, but other states are still doddering along with weak hunter safety programs or none at all. We believe that these should be mandatory, high-budget, top-priority

programs with stringent requirements, competent instructors, and first-class teaching materials. The programs must involve gun safety, of course. But just as important, they must entail basic instruction in conservation, hunting ethics and practices, and instill an abiding intolerance for slob hunters—the greatest threat to our sport.

Professional Management

And always, underlying everything else, there must be effective, professional management. Its main product may always be huntable game, for that is the commodity that attracts the investors. But it goes beyond that, for it is a process that can help instill a land ethic in a landless public by providing a whole range of human experiences with wildlife in quality natural environments. Professional game management can produce more wildlife for everyone. And in doing so, it may produce something far more important: a growing state of harmony between men and land. Such management is the only solid ground from which we can defend the sport of hunting—and the lack of it is the only solid ground from which our enemies can attack.

There's an interesting line in the movie "3 Days of the Condor." An old spy is talking to a young spy. The kid has heard that the senior spy dates back to the OSS and World War II, and the old-timer replies: "Yes, and even before that. And I certainly miss those days." "Oh? What do you miss—all the action that you had then?" "No," was the reply. "I miss the clarity."

Many of us here miss the clarity with which we viewed game management 25

years ago, when we were young and the dragons were smaller. But however the problems have grown, so has the new breed of men and women who'll be facing them. My son Chris recently took his orals for the M.S. degree in wildlife ecology at the University of Wisconsin. In his peer group he is nothing unusual—but he's far smarter, better trained, and better equipped than his father. He's a better man than I, and he'll have to be, for his dragons are bigger.

His allies, the genuine hunters, face those same dragons. They, too, will have to be better men than their fathers. If there is good hunting in the future, it will be caused and practiced by men willing to pay their dues in terms of time, money, and effort, and who proudly accept the restrictions that ethical field conduct imposes. There are not just the requirements of an increasingly critical society, but also of increasingly vulnerable environments. The same qualities that will help make the hunter acceptable to society as a whole will also impel him to fight for the quality landscapes that produce and support game surpluses. His deepening commitment will not only provide a solid ethical base for his act of hunting, but a sound political base from which he can help perpetuate quality country and its wildlife component.

Again, we're not saying that this ideal will develop, but that it must develop. Through almost all of human existence, huntable land and huntable wildlife have preceded the hunter. They caused the hunter. But in the future this must be reversed. It is the hunter who must cause huntable land and wildlife, and a world worth being young in.

Doesn't Have to Prove Anything

The lion is the least bloodthirsty of the big cats, killing only to eat.

Mini-Critter

The tiniest mammal in the world is the Mediterranean shrew, whose length is only an inch and a half at full size.

Slow But Toothy

Common garden snails have 14,175 teeth located in their tongue in 135 rows, with each row containing 105 teeth.

CONSERVATION NEWS



By Ted Godshall



PGC Photo by Joe Osman

WHILE HIS SONS DAVE AND JOE watch, George Banicky has the pelts of beavers he trapped tagged by PGC personnel at the Honesdale Armory.

Trappers Harvest 3573 Beavers

Pennsylvania trappers harvested 3573 beavers during the trapping season in 1976, Game Commission figures show. The harvest was just slightly above the 3517 taken in the state in 1975. Although Pennsylvania's prime beaver range is in the northern part of the state, flat-tails were taken in 48 counties this year. Crawford County was the top beaver producer again this year, yielding 586 pelts. Following Crawford were Erie, 333; Wayne 262; and Bradford, 236.

Tentative Opening Dates Set For 1977

The following *tentative* opening dates for 1977 hunting seasons have been established by the Pennsylvania Game Commission for the convenience of those who have to schedule vacations in advance:

Archery deer season, Saturday, October 1; early small game season, Saturday, October 15; general small game season, Saturday, October 29; bear season, Monday, November 21.

The antlered deer season opening date was previously established by commission action as the Monday following Thanksgiving, November 28, 1977.

Actual dates for next year's open seasons will be proposed at the meeting of the commission in April, with final action taken on 1977 seasons at the commission meeting in June of next year.

Visiting Hours at Pymatuning, Middle Creek and Siegel Marsh

Visiting hours at the Pennsylvania Game Commission's museum at the Pymatuning Waterfowl Area near Linesville, Crawford County, are 10 a.m. to 7 p.m. daily during July and August, 10 a.m. to 5 p.m. in September and October. Groups may visit the museum in November by appointment only. Group reservations can be made with Waterfowl Management Coordinator Ray Sickles at Linesville, RD 1, Pa. 16131, or by telephoning either 412-927-2199 or 814-683-5545.

Visiting hours at the Game Commission's Middle Creek Wildlife Management Area in Lebanon and Lancaster Counties are from 10 a.m.

until 5 p.m. Wednesday through Saturday, and from 1 to 5 p.m. on Sunday through the end of November. Groups planning to visit at Middle Creek should contact Waterfowl Management Assistant Charles L. Strouphar at Newmantown, RD 1, Pa. 17073, or by telephoning either 717-733-1512 or 717-949-3582.

Groups planning to stop at the visitors center on State Game Lands 218 (Siegel Marsh) in Erie County should contact District Game Protector Andrew C. Martin, 2805 Athens Road, Erie, Pa. 16510, telephone 814-899-8425. There are no regularly-scheduled hours at Siegel Marsh.

46 State Parks Ready for VIP's

Every Bicentennial visitor to Pennsylvania will be treated as a Very Important Person at 46 Pennsylvania State Parks, operated by the Department of Environmental Resources. These parks, which are located throughout the Commonwealth, are participating in the Pennsylvania Bicentennial Commission's VIP and Passport to History programs. Each of the 46 participating parks has been designated as a VIP host center where visitors can obtain blue VIP buttons and their personal Passport to History, a Bicentennial tourist guide to Pennsylvania. The Passport to History has places for visa stamps obtained at attractions in 13 travel regions designated by the DER, and the participating State Parks will stamp passports for their holders. Once a visitor's passport is stamped in five or more regions, he can mail the visa page to Harrisburg and receive a special Bicentennial gift.

Book Review . . .

America's Great Outdoors—200 Years of Outdoor Writing

Many outdoor books are published each year. All have value. But only rarely does one appear that belongs in every home in America. *America's Great Outdoors* is one of these. Sponsored by the Outdoor Writers Association of America and edited by Jim Bashline and Dan Saults, this beautiful volume presents selections from the best outdoor writing published in our country in the 200 years of its existence. Furthermore, over 400 pieces of artwork were chosen by art director George Harrison to illustrate the text or to stand alone in striking self-sufficiency. The book is divided into four natural chronological divisions: Revolution to Rebellion; From Abe's Death to Teddy's Peak; The Twentieth Century Begins, and The Postwar Outdoor World. Each entry was chosen with care—more than that, with respect and understanding—and each portrays some fundamental moment in America's outdoors. These are moments that should be experienced by everyone, for they show how this country—the land itself, its mountains, plains, forests, rivers—shaped our people, and how our people shaped this land. And maybe even more important, these selections are just awfully good reading. (*America's Great Outdoors, An Illustrated Anthology of 200 Years of Writing*, edited by L. James Bashline and Dan Saults, art director George H. Harrison. J. G. Ferguson Publishing Co., Chicago. May be ordered from OWAA, 4141 W. Bradley Rd., Milwaukee, Wis. 53209; 367 pp., \$19.95.



HUNTER EDUCATION

By John C. Behel
PGC Hunter Education Coordinator

TRADITIONS of hunting and safe gun handling have been passed down from generation to generation. In general, hunting around the time of the Revolution was a safe affair because there weren't many hunters afield. On the other hand, the firearms used in the

That's the Way It Was

hunt were often imperfect. Malfunctions were many with the early flintlocks and percussion guns, and breech explosions from weak damascus or twist steel barrels frequently caused powder burns and injury.

The development of the patent breech in the percussion era was made necessary because the weakest part of the flintlock's barrel was usually at the breech end, where the barrel was joined to the breech by threads. Pressure developed here at the moment of ignition, and on occasion the gun ruptured at this weakened point.

Fitting the breech tang and nipple into the barrel increased the strength of the barrel; it also permitted easy removal and replacement of the entire end after it became badly eaten away by the fulminates of the percussion cap. The patent breech was made stronger by designing a vent screw which could be taken out in case burned powder residue accumulated in the chamber.

It was a common practice for hunters to carry their guns with the hammers back (a practice still all too common which results in many accidental discharge injuries). The old hunters kept a thumb between hammer and breech, thus blocking the works until ready to cock the gun and fire.



As a game protector, I once checked an old-timer carrying a vintage double shotgun in this manner. I called the unsafe practice to his attention and was promptly put in my place when he assured me it was safe as gold. "Sonny," he said, "I been carryin' Old Betsy this way more years than you are, and nothin' ever happened yet." I wondered if anything ever would happen as he trudged off down the road, gun over both shoulders, arms hanging over barrel and stock. Sure enough, both hammers stood full back, ready to fire.

While a hunter may never have encountered another person in a day's hunt in 1776, he always observed one important rule—respect for the muzzle. Old hunters religiously kept the business ends of their guns pointed in safe directions. Maybe that's how they got to be old.

Although safety was an important factor in the past, it was not the concern it is today. In 1976, with millions of hunters in the field, safety is all-important. Every state and Canadian province now sponsors safety training

classes, and thousands of youngsters and first-time hunters (over 50,000 in Pennsylvania each year) receive instruction on the fundamentals of hunting, safe handling of sporting arms, traditions, ethics, wildlife management, and a hunter's responsibility to land, landowner and wildlife. A very necessary program to a beginning hunter today.

Yes, safety goes from generation to generation. My generation was no different from most. I started hunting more than 40 years ago and my first lesson in hunter education—before I even picked up a gun—was learning how to clean game, for it was an important part of the economy of our household. Two important points of safe gun handling were constantly brought to my attention during the hunt: keep the gun pointed in a safe direction, and keep the safety on. These instructions are imprinted on my mind because I heard them hundreds of times while hunting with my father, as he heard them from his. I hope you have a similar tradition.

Hunters Compile Top Safety Record

PENNSYLVANIA hunters during 1975 compiled perhaps their finest safety record of all time. Last year, only 331 accidents occurred among the million and a quarter hunters afield in the Keystone State. Of even greater significance, there were only 14 fatalities, tying the all-time record in this category, and three of those were self-inflicted. Only one fatality was recorded during deer season.

Only once before, since record-keeping began here in 1915, has there been as few as 14 fatalities during a year; that was in 1957, when a quarter million fewer sportsmen hunted in the state.

Only two previous years, 1921 and 1923, had but one fatality during deer season. In those years, Pennsylvania had fewer than a half million hunters.

The hunting accident rate has dropped sharply in the state since 1968,

when hunter education became mandatory for all youths under 16 before they could purchase a hunting license. There were 530 Pennsylvania hunting mishaps in 1968.

Mandatory hunter education for youths, plus increased use of fluorescent orange garments by hunters, is believed responsible for the big reduction in the number of accidents. Last year, eight persons wearing red and 27 who wore no safety-color clothing were shot in mistake for game. No one wearing fluorescent orange was shot in mistake for game. For years the Game Commission has urged hunters to wear fluorescent orange and has asked the Legislature to make this mandatory.

A detailed breakdown of the 1975 hunting accidents appears on the following page.

PENNSYLVANIA GAME COMMISSION

A DIGEST OF INFORMATION COMPILED FROM REPORTS OF HUNTING ACCIDENTS

1975

CASUALTY

<i>Fatal</i>		
Self-Inflicted	3	
Inflicted by others	11	
<i>Non-Fatal</i>		
Self-Inflicted	60	
Inflicted by others	257	

AGES OF VICTIMS

Under 12 years of age	4
12 to 15 years of age	46
16 to 20 years of age	66
21 years of age and over	214
Age not reported	1

SPORTING ARM USED

<i>Shotgun</i>	<i>Fatal</i>	<i>Non-Fatal</i>	
Self-Inflicted	2	14	16
Inflicted by others	7	203	210
<i>Rifle</i>			
Self-Inflicted	1	30	31
Inflicted by others	4	49	53
<i>Revolvers</i>			
Self-Inflicted	0	16	16
Inflicted by others	0	2	2
<i>Bow and Arrow</i>			
Self-Inflicted	0	0	0
Inflicted by others	0	3	3

AGE OF PERSONS INFLECTING INJURY

12 to 15 years of age	29
16 to 20 years of age	24
21 years of age and over	133
Age not reported	72

CASUALTY CAUSES

Sporting arm dangerous position	10
Accidental discharge	49
Ricochet or stray	101
Victim in line of fire	98
Hunter slipped and/or fell	27
Hunter dropped sporting arm	4
Shot in mistake for game	35
Sporting arm defective	6
Using sporting arm as a club	1

BIRD OR ANIMAL HUNTED

Upland Small Game	9	238	247
Deer	1	64	65
Bear	2	1	3
Woodchuck	1	13	14
Others	1	1	2

SAFETY COLOR WORN BY VICTIMS

Fluorescent Orange	110
Red	96
Yellow	11
None	114

PLACE OF ACCIDENT

Fields	84
Brush	75
Open Woodland	70
Dense Woodland	70
Water	2
Conveyance	5
Camp	1
Wood Road or Public Highway	24

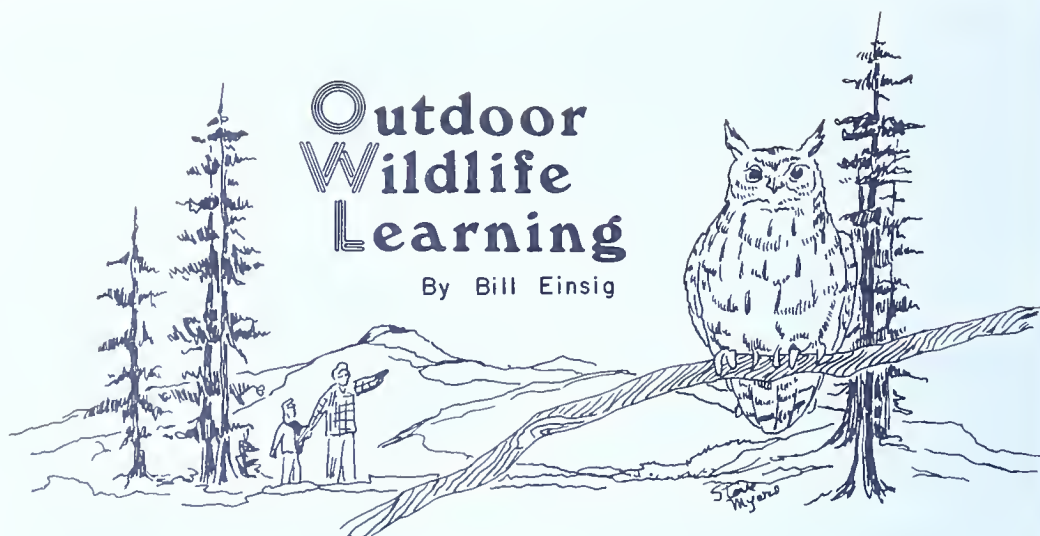
SUMMARY OF ALL CLASSES OF 1975 HUNTING ACCIDENTS

FATAL 14	NON-FATAL 317	TOTAL 331
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SAFETY COLOR WORN BY VICTIMS SHOT IN MISTAKE FOR GAME

<i>Fluorescent Orange</i>	<i>Yellow</i>	<i>Red</i>	<i>None</i>
0	0	8	27

NOTE: Average years hunting experience per offender—14 years. The 1975 hunting season is one of the safest ever recorded. Only one deer fatality occurred—the lowest number since 1922. The 14 fatalities equal the fewest ever recorded.



Summer Flowers

July is a good time to photograph the often neglected summer wildflowers. Slides of these weedy species can make an interesting program that illustrates a number of basic botanical principles.

For instance, few people realize that many of the familiar and common "weeds" are introduced species—that is, they are not native to this country. Those that have been most successful are normally adaptable to poor soil conditions and produce large numbers of seeds. Queen Anne's lace, or wild carrot, is a good example. This species was introduced from Europe and is the plant from which the garden carrot was developed. The slender taproot is edible but identification should be definite because of its similarity to poison hemlock, which is also a member of the carrot family. Common mullein and moth mullein are both closely related even though in general appearance they are quite distinct. Both species are biennials native to Europe but have become established here in old fields and road sides.

Many natives are also worth investigating. Pokeweed, for instance, has more names than can be counted on two hands. The young shoots are some of the most popular edible wild greens. However, as the plant matures the seeds, stem, and roots become poisonous, and thus most people avoid the plant altogether. Oddly, there are a variety of recipes for old-time tonics that include pokeberries. Indian-pipe and pinesap, on the other hand, are unique in that they represent a family of flowering plants that lack chlorophyll and cannot produce their food through photosynthesis. Experts disagree

somewhat but the common assumption is that the plants feed on decaying humus in the soil. Look for them in rich acid woods.

Care should be taken when photographing plants to make sure distracting backgrounds are omitted and to get as close to the plant as possible. Neither of these is a major problem with larger plants like the mulleins. With smaller plants, a close-up arrangement of some type is needed. Don't settle for just one picture of each plant. Move around, change your angle and try to show different aspects of your subject. Slides can be edited later to suit the specific program you have in mind.

Above all, have something interesting to tell about each plant. Is it a native? Where does it grow? Is it edible or poisonous? Is it important to wildlife? If you weave your story around a general theme, show lots of slides (several of each plant) and let your own enthusiasm show through, your audience just may begin to see some beauty and value in common weeds and unfamiliar plants.

Getting Started

Somehow, during the early '70s, the major responsibility for teaching environmental education came to rest upon specialized science courses offered at a particular grade level somewhere between upper elementary and senior high. Such courses carried various names—outdoor education, field biology, ecology, environmental education, and others. Many of these programs were experimental and, as with most good experiments, they pointed out their own weaknesses as well as their strengths.

It has become widely recognized that environmental topics must reach through all disciplines—not just science studies—while at the same time, mankind's intimate relation to his environment must be emphasized and re-emphasized at all grade levels. Therefore, every teacher regardless of grade or subject area should teach in an environmental context.

However, just getting a job started is usually the biggest obstacle to getting it completed. So it is with many teachers and youth leaders who want their students to work and learn out-of-doors or confront the many facets of environmental issues. The experience of several or many years strengthens familiar techniques and makes different ideas seem strange and frightening. Lack of training and insecurity with the language of ecology keeps many instructors from becoming involved with environmental concepts. The mountain of available literature can be confusing—too detailed or too general—and a great many pamphlets, booklets, and brochures are filed away because of the uncertainty as to how they can be used.

"A Better Place To Be" by Carol Euston is one of the best guides for the leader looking for a way to begin. It is not a packaged program nor a step-by-step course of study, but rather it is a collection of basic ideas that can be used in an existing course without extensive remodeling.



Not all of the ideas are applicable to every course but enough is given to stimulate the imagination of teachers and students alike.

Be sure to request your copy from Johnny Horizon '76 Program, U.S. Department of the Interior, Washington, D.C., 20240. In addition, ask about multiple copies for friends and co-workers.

Any Ideas???

OWL welcomes your comments and looks forward to sharing your ideas with its readers. All correspondence should be mailed to: Bill Einsig, 1912 Karyl Lane, York, Pa. 17404.

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Of Johnnycakes and Freedom

By Susan M. Pajak



DRESSED IN A style suggestive of colonial days, Susan Pajak hefts a board of homemade soap she poured, cut and stacked a day earlier. Directions for making such soap are given on back of lye can. If you try it, be sure to keep children away from lye water; it's dangerous.

WITH A SPLIT hickory sapling to sweep an earthen floor, a blackened iron pot to cook a few potatoes in, and a wooden porringer for serving, the frontier woman of southwestern Pennsylvania set up housekeeping in a lush, green wilderness where lay three great rivers, the Allegheny, Monongahela, and Youghiogheny.

Young in years, the frontier woman, an immigrant of English, German, or Scotch-Irish birth, had traveled from the eastern counties of Pennsylvania, and from the eastern states, to begin a new life with her family in a new territory. Here she would

find freedom from any further indenture; here she would put down roots.

The pioneer woman, strong in spirit and body, set out on foot toward this promised land, far west of the Susquehanna, her belongings strapped to her back and the backs of her family. More often than not, her personal possessions consisted of merely a cooking pot, some cloth, a needle and thread, a comb, and perhaps a bit of ribbon for her hair . . . nothing more.

She considered herself fortunate if there was also a skinny cow to bring along, and a chicken or two was considered a blessing.

Among the most valuable possessions, undoubtedly, were small bags of seeds, for she knew that in order to feed her family she first would have to plant. No corner grocery store would ever be available to her.

Having no garden plow or animal to pull it, she scratched open the first furrows in this western wilderness with tree branches. When a plow was made, she and her children pulled it.

Maize, wheat, rye, flax and Irish potatoes were the chief crops. Wild animals provided meat for the table and the forest provided nuts and some wild fruits. Berries were abundant.

Continuance of human life itself in this wilderness depended heavily on the frontier woman. With her lay the knowledge of flax culture, spinning and weaving, food preparation and storage, gardening, birthing, soap and candle making . . .

When she had to, she also shouldered—with surprising accuracy, one might add—the rifle which was never set too far from the hand and which was at times much more important than the ax, maul or wedge. Her children were taught to shoot also. Good marksmanship was a necessity.

Bread was a rare commodity. With only cornmeal for flour, the lady of the cabin prepared johnnycakes, a flat, bland cornmeal cake baked on the hearth. Unless drenched, dribbled, or drowned in something, plain johnnycakes are unbelievably boring in flavor.

GIRLS, GUNS, & GAME...

For a tastier version, take one full cup of cornmeal and add one egg, one full teaspoon of baking powder, a touch of salt, some sugar, and enough milk to make a thin batter. Bake on hot, greased pancake griddle, turning once, carefully. Eat plain or use a little jam or honey.

As the frontier woman became settled, her inventory of utensils enlarged to include such items as gridirons, braziers, firkins, Bettylamps, keelers, noggins, pig-gins, porringers and posset cups; also, there were pothooks, rundlets, spiders, spits, trammels, trenchers, trivets, and so on.

Furniture in the usual one-room, windowless log cabin consisted entirely of what could be made from forest trees. Tables, benches and bed frames were made from split logs dimensioned and smoothed with the ax and barlow knife.

The first fireplaces were log chinked with mud and sticks until the time when fieldstones could be gathered. To let the fire go out was unforgivable. If it did, one of the children was sent to the nearest neighbor—who could be a couple miles away—to bring back a live coal.

Then as now the frontier woman delighted in pretty dresses, but alas! she had no exceptional finery. All of the family's clothing was made from a mixture of linen and wool called linsey-woolsey.

Most pioneer families grew flax for their clothing needs and spent many a night toiling over the spinning and weaving. Dresses were long and full, and common colors were blue, if she had the dye, dull yellows from tree bark, brown and gray.

Most clothing was heavy and long-lasting, with the next generation often wearing the same article.

Deer hides were also used for everything from shoepacs to clothing to pouches for holding anything that needed to be held, particularly gunpowder and rifle balls.

If her infant children survived the hardships of cold winters, sickness and malnutrition, they grew up to look just as spindly as did their mothers. Many babies died within a year or two of birth.

Children were, however, a valuable asset because it was up to the children to carry on daily tasks such as grinding corn. No child, beyond infancy, was ever idle long.

Summers were warm and pleasant, but fear of Indian raids beset the frontier family at every turn. Never was a baby permitted to cry at night, never was a Bettylamp lit if there was a cause to believe a roving band of hostile Indians was nearby. No one ever slept soundly, and often the frontier mother had to leave all belongings and flee with her family to the nearest fort. To tarry could mean torture and death. Many mothers watched in horror as their children, if not tomahawked, were snatched away into captivity. Some went insane at the sight.

The frontier wife and mother of western Pennsylvania was considered old and worn at 35. Disease, malnutrition and overwork took their toll early. Unmarried women, however, were few, as widows remarried quickly. Survival, protection and food were the reasons for marrying.

Beyond all the hardships, however, a need for independence—freedom from control—was uppermost in her heart and mind. To this end she suffered and died in this western wilderness; to this end she set down permanent roots that gave faith, hope and direction to the women who would follow, to those of us who are here today.

In this Bicentennial Year we should pause and reflect on the courage and persistence of this resourceful figure, the frontier woman and mother. Happy Birthday to a free America!

Reference for this article: "Pioneer Life In Western Pennsylvania," by J. E. Wright and Doris S. Corbett, University of Pittsburgh Press, 1940.

Political Symbol

The raccoon was the symbol for the Whig political party in the United States from 1831 to 1844.



THIS IS THE IRONMASTER'S RESIDENCE at Hopewell, the beautifully restored "big house" from which the entire operation could be overseen.

A Worthwhile Stop for Bicentennial Touring

Hopewell Village

By Les Rountree

THERE'S a special pride in being a Pennsylvanian this year. The historical sites that many of us take for granted are receiving special treatment by the rest of the world this year. Foreign dignitaries from dozens of countries are making visits to the Keystone State this year, and just about every politician with an ounce of PR sense will make a pilgrimage to see and be photographed near one of our national treasures. And Pennsylvania has them in spades. While Massachusetts, New York and New Jersey (all of the original thirteen colonies for that matter) might raise a howl of protest, the greatest collection of historical sites and locations of important revolutionary events are in Pennsylvania. Independence Hall, Valley Forge, Brandywine Battlefield, Washington's Delaware Crossing Site the list could go on for several pages.

While some historical bickering might be justified, Philadelphia *was* the

cultural and political heart of the fledgling nation. The seeds of freedom had a chance to be distributed through the small but effective printing industry that flourished there. (Ben Franklin, though born in Boston, was a Philadelphian.) In direct contrast to the early sophistication of Philadelphia, Pennsylvania also contained the colonial frontier. Beyond the Appalachian Mountains lay the virgin wilderness. With the exception of a thin string of primitive forts, the western half of Pennsylvania was wild and woolly country inhabited by scattered bands of Indians and an occasional free-wheeling white trapper. For all practical purposes, the Susquehanna River marked the end of civilization.

But even in the small country towns that existed east of the "wild" country, the backwoods traditions and life-styles were strong. From Pennsylvania came the volunteer soldiers who were to cut a wide swath across revolutionary his-

tory. They were the Pennsylvania Riflemen, buckskin- and homespun-clad irregulars who, while not good examples of military precision, struck fear into the hearts of the British regulars. With their woodwise style of fighting and armed with the most accurate rifles of the day, they were a key factor in Washington's victory. The rifles carried by the Pennsylvanians were local products. While many of the locks used in their manufacture were imported, the barrels were made from local iron forged in the tiny charcoal furnaces that dotted the eastern countryside. The Pennsylvania Germans brought steel making know-how with them from the old country; and their hunting traditions demanded accurate, efficient weapons.

The word "forge" is tacked onto many place names in Pennsylvania, and while the iron and steel making industry is now centered around Pittsburgh, it was not always so. Small surface deposits of iron ore in the eastern and southcentral sections of Pennsylvania provided natural sources of raw material for colonial purposes. The limestone was also there and so was a seemingly unending supply of hardwood from which charcoal could be processed. Using the ore, charcoal and a small quantity of limestone, a usable quality of pig iron could be manufactured which, when tempered and forged, could be hammered into most of the metal goods the colonists needed. As the colonists became revolutionaries, the products changed in nature and numbers of small iron-making communities increased. Of the hundreds of charcoal furnaces that once existed in Pennsylvania, only a few are still standing. The ravages of time have all but obliterated the traces of this early industry. Hopewell Village is unique among them.



TYPICAL EXAMPLE of a Revolutionary cannon built at Hopewell over 200 years ago. Mark Bird founded Hopewell Village in 1770, and it helped arm the colonial soldiers.

Restored and administrated by the National Park Service, Hopewell Village is nearly on the Berks-Chester county line on Pennsylvania Route 245 just south of Birdsboro the Horseshoe Trail passes two miles south of the village. Take Pennsylvania Turnpike exit 22, turn east on Route 23 and follow the signs. It may be missed by the horde of Bicentennial visitors who will be flocking here from other states, but residents shouldn't fail to see it. It is a slice of Americana that is indigenous to our state and one of the most professionally managed government facilities I've ever seen.

Roadside attractions, regardless of their historical significance, usually leave me cold. Not because I don't care what might have happened there or who did what there, but because the all-too-frequent "system" of seeing the place is handled in a chaotic fashion. Usually, the kids are herded around from one monument or written message to another in the hope that some sense of history will magically rub off. Some places grab the visitor's imagination and some don't. Hopewell takes a visitor by the hand and does an excellent job of it.

An ample parking lot starts things off



WOODEN SLEDS such as this one were used year round at Hopewell to bring in wood to be burned for charcoal. At the height of activity, an acre of hardwood forest was required each day.

right after entering on a driveway that winds past a handsome orchard. The reception building is the only modern concession on the site, but even that tastefully blends in with the antique surroundings. Displays of products and illustrated explanations of what took place at Hopewell Village immediately capture the visitor's attention. How iron was made at Hopewell is shown in step-by-step drawings, and some beautiful examples of the Franklin stoves and revolutionary cannon are there to see and touch. The next step is to pick up a brochure and follow the well-marked route through the various stages of iron making. Along the tour route, stops are made at the ironmaster's house, the springhouse, the blacksmith's shop, and the tenant quarters.

The standout feature of the Hopewell tour is the system of tape recordings located at the tour highlights. Discreetly placed buttons are pushed and voices, some with authentic Dutch accents, come on with a brief explanation of what took place there. They are not boring monologues done by tired guides but folksy conversations about the life and times of early Americans. For example, pushing the button at the springhouse where butchering and canning operations took place produces the voice of one of the girls who performed

a multitude of backbreaking chores for the ironmaster. It's fascinating to listen to her tell of the hard work involved and about some of the petty bickering that took place around the "big house"—the name given to the ironmaster's residence. This building also served as a hotel for stove buyers and travelers.

While there was a scattering of iron making communities in Virginia and Massachusetts, Pennsylvania had become the iron making leader of the new world by the end of the 1700s. Mark Bird founded Hopewell Village in 1770, and it was in operation soon enough to supply cannon and shot to the revolutionary armies. The needs of the military put Hopewell on the map, but its shining hour came later when it became one of the new nation's premier producers of cast iron stoves. More than 80,000 stoves in 138 patterns and designs were manufactured at Hopewell before the final blast was fired in 1883. By that time, the use of soft coal in western Pennsylvania and other parts of the United States as an iron making catalyst had rendered the slower charcoal process obsolete. Iron makers at Hopewell tried to keep up with the times and in 1833 built an anthracite furnace that would utilize the hard coal discovered in eastern Pennsylvania. Unfortunately for the owners, the coal used wouldn't smelt the local iron ore and the idea was abandoned.

Another Problem

Another problem began to close in on the charcoal smelting industry, the diminishing supply of hard wood. Around Hopewell and other furnaces of the period, virgin forests furnished all of the fuel. It seemed that the supply would never be depleted, but the furnaces had an insatiable appetite. An acre of hardwood forest was required to run the furnace for one day. That meant felling the trees and splitting them into rails that were stacked, tent-like. The stacks of wood were then covered with dirt and leaves and set on fire. The covering made the wood burn slowly, creating the black chunks of charcoal. As the trees close to a furnace were

used up, it became a more expensive operation to haul the charcoal from further and further away.

In addition to using the trees for charcoal, the demand for wood for other purposes began to build. Hardwood trees don't grow rapidly, and with a need for iron and wood growing simultaneously, something had to give. The same thing happened in the western part of the state until it was discovered that it was easier to move the iron ore to the source of fuel, in that case soft coal, than it was to move the coal to the iron. Some environmentalists will question the wisdom of our ancestors, but we can't reverse history.

Engineering Marvel

The huge waterwheel which turned the blast machinery at Hopewell is a marvel of early American engineering, as is the furnace itself. When it is realized that there were no industrial consultants to consult and that everything had to be made by hand, the production of iron in such surroundings seems miraculous. There were no cranes or bulldozers to move heavy things around . . . just muscle and horsepower coming from real horses. Twelve-hour shifts were the rule, with 380 bushels of charcoal and $4\frac{1}{2}$ tons of ore being shoveled each day. From this labor came $2\frac{1}{2}$ tons of iron. The iron produced each day would be ladled into "pig" molds for transportation to a nearby forging house or poured into sand molds for stove production.

The stoves made at Hopewell were elaborately decorated with raised designs which were cut originally into wood blocks. The blocks were then pressed into wet sand that would receive the molten metal. A tricky process at best, with a high percentage of error. But it *did* work and for nearly a hundred years this was the prime method of building stoves via a mass production technique.

Hopewell is unusual in that, during an age when most businesses were one- or two-man operations, 65 men were employed here during its peak period. The village was almost self-sufficient. A company store took care of the daily



HUTS LIKE THIS ONE were constructed in the woods as needed so colliers would have a place to live while making charcoal.

needs of the workers and there were jobs for the children and wives as well. The ironmaster's house was close to the forge and he kept an eye on all operations. Meat, vegetables and fruit were grown on the property and the local blacksmith's shop kept all the machinery and horses operating at top efficiency. In modern terms, it was a "closed shop" arrangement. It's curious to note that the life-style the early iron-makers strived for was the exact thing they helped bring to an end. Supplying ready-made products and iron for other industries hastened the day of the big city and centralized production facilities.

I must admit that I was completely captivated by the strong feeling of history that surrounds Hopewell. With a spot of imagination while listening to the taped messages, it's possible to really get caught up with the spirit of the period. The artistry and resourcefulness of early American craftsmen is dramatically displayed here. The National Park Service must be congratulated on their successful effort to restore Hopewell Village.



EXHIBIT IN WILLIAM PENN MEMORIAL MUSEUM, Harrisburg, photographed by special permission, shows Indians smoking fish in easy days of summer.

Beads and Buffaloes

By Keith C. Schuyler

Photos from the Author

ALTHOUGH LOOSE history covers much of war and political machinations among the Indians, there is little in the many books scanned for this brief look that deals directly with his hunting way of life 200 years ago. By the now-famous date of July 4, 1776, Indian life and affairs had become so interwoven with that of white men that the simple purity of religion and savage nature of the red men were unalterably tainted by the many disasters which befell our native Americans.

Essentially a bowman, the Indian had by 1776 well learned both the ways and the weapons of the invader. Hence, except for those Indians living deep within the hinterland away from the distracting influence of so-called civilization, the native was frequently a sad counterpart of himself. Greed and

loud muskets of the whites had sent wild game farther and farther back into the wilderness. Although guns had become commonplace, the Indian still depended much upon his bow in the more remote areas.

Considerable game still remained in Pennsylvania—away from the beaten path. Buffaloes were fairly common in some areas, and one was reportedly killed on the streets of Harrisburg as late as 1792. Elk were being slaughtered for their meat, hides, and teeth, but there were sizable herds in some areas. Deer were plentiful and furbearers and meat-providers were in sufficient abundance that a good hunter could make a life for his family off the land.

The Susquehannas, or Conestogas, members of the greatest original tribe

in Pennsylvania, were all but gone due to the ravages of disease and war. They at one time had threatened the Five Nations Iroquois which formed the Great Peace in the northeast, but their lands were later taken over with little show of force.

It was a strange justice, or lack of it, when the American Revolution signaled the beginning of the end for the now Six Nations Iroquois. These great peoples, who said they could not sell the land because it was their mother, nevertheless did sell. Much was sold or bartered for little more than beads or promises. The Indians considered all hunting lands as common property; the whites had different ideas involving deeds and boundaries of possession which were unknown to the natives. And so the beads came and the buffaloes went. Finally, all but a remnant of the Indians also went.

We will attempt here to suppose what it might have been like if an oppressed young Indian couple, survivors of the few Susquehannas that disease and intrigue had spared, had tried to carve for themselves a new living in Pennsylvania 200 years ago. These had been a proud people of whom Captain John Smith once said, "Such great and well-proportioned men are seldom seen"

Rumblings of war between the whites in the spring of 1776 brought no joy to the Indians. In all such wars, the Indian somehow ended up the loser. Our couple headed for northwestern Pennsylvania, still an area of true wilderness though part of the hunting grounds of the Six Nations.

To come up with names for our imaginary Indian couple, we will borrow from the language of the Delaware Indians. Chingachgook, so called because his father saw a *large snake* while his first infant cries still filtered through the trees, was a sturdy specimen who

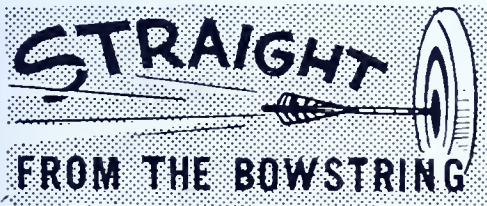
fitted Captain John Smith's description of the Susquehannas. And, before seeking a social escape from the mixture of red and white people in eastern Pennsylvania, he took unto himself a squaw, Wulapan, named for the *fine morning* on which she was born. Angular but darkly beautiful, she epitomized the best in female characteristics of their people. Her grace, like that of a birch in a brisk breeze, was coupled with the supple strength of ironwood. Her braided black locks were held in place by a headband of carefully worked beads.

Disdained Scalp Lock

Chingachgook disdained the scalp lock so prevalent among the Iroquois as an acceptable and mutual convenience for the grisly method of exchanging hair, and let his hang free to follow the wind in its own direction. When hunting with the bow, he would tie it away from his face by means of an old sinew bow string.

They carried their meager but valued possessions on an elderly horse inherited from Chingachgook's father along with an equally ancient musket. Much of Chingachgook's other possessions were traded for a supply of powder and ball for the uncertain weapon. His carefully made hickory bow and arrows were more certain implements for their future. A supply of seed corn, so valuable that Chingachgook carried it in a deerskin pouch with a thong about his neck, was even more important than the clothes, blankets, ax, tomahawk, and animal robes that completed their worldly possessions.

Streams cut the land in many places when you travel west in Pennsylvania. Chingachgook's plans fit the map fixed in his mind at many campfires of his elders over his brief span of two decades. He planned to trade the horse for a canoe as soon as he found a place where the water was big enough to serve his intention. He was even more fortunate than he hoped when, at an Indian village, he found a birchbark craft, far superior to the elm bark canoes and dugouts common to this area. The birchbark canoe of many patches had somehow found its way from the battle



of Lake George before Chingachgook was born.

It was several days before the trade was effected, and the canoe's price came high. It cost Chingachgook his old flintlock in addition to the horse. But, he knew that once the supply of powder and ball was exhausted, the weapon would be useless in the wilderness.

Chingachgook had practiced long and well with his four-foot bow, and each painstakingly created arrow carried a memory for his fingers and arm. Once away from the encroachment of civilization, game would be less wary and more easily approached within range of the primitive weapon. The bow was at best a crude improvement over a length of natural wood. The deer sinew which served as a string was sufficiently strong, but each arrow had its preference for direction and its performance had to be memorized.

Chingachgook's supply of ball and powder brought him in exchange sufficient dried venison and fish to avoid delay in traveling up the river. This was important, for planting time was near and the water had already started dropping to mid-spring lows. Chingachgook wanted to be far enough upstream that he need fear no visitors by water during much of the year.

Equally Expert

Wulapan was almost equally expert with the paddle, and the two made good time in their penetration of the still unabused wilderness. A small herd of buffaloes in a little valley made Chingachgook decide to stop. These animals represented both food and warmth as well as some evidence that the area was little traveled by whites. The herd numbered only a dozen animals, but Chingachgook immediately picked out in his mind the yearling bull that would build up their winter larder. Without the musket, killing the bull would require the best in hunting ability and he knew he might be forced to follow a hit many miles before collecting his trophy of meat and hide.

There were other reasons for stopping here. A small marsh would provide duck and goose eggs in season;

the birds themselves would be easily available during the molting. A small herd of elk working an old burn on the marsh side of the gentle slope to the right of the stream was further encouragement. Deer sign was plentiful, and a doe and fawn watching curiously from the bank provided hope that many more might be found. The V of a swimming beaver represented an additional invitation to food and warmth. Wild plants and roots were in abundance.

Chingachgook mentally chose a site for his cabin on a small promontory west of the marsh that overlooked the dwindled river as it felt its way through the valley below. Westerly breezes would spare them some problems with mosquitoes while providing a good view of the waterway to their proposed home. Bark and moss would be enough to shut out the gentle weather of late spring, summer and early fall, and it would give Chingachgook time to build a cabin of the materials close at hand.

The now unflooded flat would provide encouragement to the grains of corn that had traveled so far with them. Hopefully, the river would be kind to them until they could clear a spot less vulnerable to high water.

The days of water travel had more than used up their supply of food, and Chingachgook was mindful of the need to establish a larder. Even so, this gentle young man took time with the sunset in the small paradise to give thanks to the Great Spirit who had brought them this far.

Then Chingachgook laid out his arrows from the deerskin quiver to make certain they had equally well survived the journey. They were, for the most part, tipped with spare bits of iron scrap that he had fashioned into heads. Only two of the heads had reverse points where they tapered back from

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GHOSTLY IMAGE OF LOST Indian heritage is provided in lighted three-dimensional optical glass by Arrow Promotions of Ohio.

the tip. These two were man arrows, designed to inflict the most punishment possible if their use should become necessary. Others followed the typical leaf pattern in stone and flint, carefully flaked into shape with the tip of a white-tailed deer's antler. A pocket sewn fast to the quiver held many more heads more suitable for deer and elk and buffalo. Several elongated heads would later be fitted onto long poles to provide spears for the big trout and suckers that scurried ahead of the canoe upon their approach to this site. As Chingachgook checked his tackle, Wulapan gathered wood for their fire.

Then the lean Indian drank heavily at a spring which bubbled from the side of the hill just beneath the small promontory. This would assure that nature would call him early. He had several miles of travel to where the big birds were likely to be roosted in tall chestnuts overlooking the lush burned-over area.

Chingachgook had left their sleeping robe long before the first gray silhouetted the mountains to the east, and he moved quietly beneath the big trees. An owl hoot brought a chuckle from the closest gobbler, and the Indian was in position for an easy shot when light was

sufficient to outline the nearest bird.

He trotted back toward camp with the bird over his shoulder, filling his lungs with the sweet air of April morning. He noted where the deer passed on their way up from the swamp, only good thoughts filling his mind. He spoke once in greeting to a rabbit that crossed his path, wondering somewhat guiltily if it was really true that the Indians were related to these small creatures.

For three months the two Indians, now expecting a third, knew the life of their ancestors and were supremely happy. But, even as the ink was yet wet on a document in Philadelphia that said certain of the white men were now sole possessors of this country, two errant British deserters had spied the canoe pulled up on the bank of Chingachgook's stream. Well armed with muskets they had brought many miles with them, the intruders made plans. Scalps would still bring a good price in certain areas. But even if they couldn't convert the scalps into cash, the canoe itself was well worth the diversion.

Fools they might be, but the Englishmen were not foolish. They had great respect for the Indian's way of life if not his right of life. They laid their plans carefully . . .

From Here in Pennsylvania, the State of Its Birth, Comes a New Edition of . . .

The Rifle of 1776

By Don Lewis

Photos by Helen Lewis



DONALD HARTNETT, left, holding a Jack Haugh rifle, and **Don Lewis** with a Pennsylvania Bicentennial Longrifle created by John Bivens. A limited edition of 200 commemorative rifles is being produced to honor the 200th birthday of our country. Each will be handcrafted by the collective efforts of several of the finest artisans in the United States. Marked in a numbered series, each rifle will bear the seal of the Bicentennial Commission of Pennsylvania.

THE BITING cold wind cut through young Don Hartnett's scant hunting outfit, and more than once he was tempted to head home to the warmth of his parents' kitchen. Yet, he knew the big woods on Ligonier Mountain held bucks with trophy racks, and to a 16-year-old boy, the thought of downing a prize buck forced him to battle the elements. Finally, the deep snow and freezing cold brought him to a point of near exhaustion, and he sat down against the base of a large hemlock.

It was impossible for him to shake the idea of quitting, and each time he looked at his vintage rifle he recalled the pointed remarks his pals had tossed his way. Despair deepened as the heavy odds against him were realized. Still, Don wasn't a quitter; he would stick it out the rest of the day even though success hinged on an antiquated muzzle-loader purchased for twenty hard-earned dollars. Having a deep affection for black powder rifles, Don wanted one chance to prove success isn't always the product of the modern big game rifle.

With his mind filled with boyish dreams of trophy racks, he nearly missed seeing a large buck slip out of a thicket 50 yards away. Caught with the long rifle across his lap and both hands squeezed between his knees for warmth, it looked for a few seconds as if there would be no chance for a shot. Don knew better than to make a quick move, and it took forever to cock the muzzle-loader and set the trigger. Finally, the rifle was against his shoulder and the moment so long awaited was in front of him. But Don hadn't figured on half-frozen fingers, a moving target, and a heart that was pounding like a trip-hammer.

It was now or never as the buck paused to survey the landscape. Don was aiming from a cramped position, the muzzle waving like a straw in the wind, but when the iron sights steadied for a second behind the shoulder, the shot was touched off. The boom of the 45-caliber sent a cloud of smoke mushrooming from the muzzle to completely screen the buck from view. Jumping to his feet, Don raced through the smoke only to see the deer heading into the thicket. Pure disappointment hit the young hunter, and frustration swept over him as he made a hurried attempt to reach his powder horn. As he dumped the charge, the buck bounded from the dense undergrowth and crashed to the ground. A trophy 10-point had fallen to a youngster who had implicit faith in a rifle from yesteryear.

As Don Hartnett of Johnstown told me about his first muzzle-loader hunt, I had the feeling it had meant more to him than just getting a large buck. His first muzzle-loader was a handmade version by an unknown Pennsylvania gunsmith. With a full length stock and a Roman nose comb, it was a near replica of the models used by the early settlers. Although he spoke fondly of the old rifle and the long association he had had with hundreds of black powder outfits, the rifle I was now interviewing Don about was a far cry from the one used to drop the 10-point. I was face to face with one of 200 "Bicentennial Commemorative Longrifles" being produced for Don Hartnett.

Looking at John Bivin's masterpiece made me proud to be a Pennsylvanian. After all, it was my state that gave birth to the famous long rifle of American history, and now it had authorized the re-creation of just 200 for the Bicentennial celebration. Although most of my gun association had been with modern



HARTNETT AND LEWIS discuss the relief carving on the stock of the Bicentennial Longrifle. These rifles are reproductions of the type produced by Lancaster-area gunsmiths in the 18th century.

centerfires, I slid back the curtain of time as I shouldered the handmade flintlock and aimed at an imaginary buck beside an imaginary waterfall. With the nation celebrating its 200th birthday, nothing could be more appropriate than having the famous "longrifle" brought back in a handcrafted version that allows its owner to step back nearly 200 years to the shops of famous Lancaster county gunsmiths such as Mathias Roesser, Henry Messersmith and Jacob Dickert.

While the Pennsylvania long rifle is often mistakenly called the Kentucky rifle, it was born in the Keystone State. Its identity change came about as thousands of Pennsylvanians moved southward and westward, taking up residence throughout the great Shenandoah Valley and into the area known as Kentucky. Many gunsmiths worked in the great valley before the middle of the 19th century, but Lancaster, Pennsylvania, continued to be recognized as the rifle making center of America.

During 1974, the Pennsylvania Bicentennial Commission decided that a flintlock long rifle would be considered an appropriate commemorative symbol of the commonwealth. Since the long rifle played a



significant role in the Revolution as a skirmish, flanking, and sniper weapon, and the fact that Pennsylvania gunsmiths brought about the inception of the long muzzle-loader, it was selected to represent the Commonwealth of Pennsylvania. Only 200 were ordered built, and it will not again be reproduced.

An interesting aspect of the Bicentennial version is that it's not an exact copy of any existing antique. Noted gunsmith John Bivins of Winston-Salem, North Carolina, created the design and used his artistic skills to produce a rifle that would truly reflect the style and carving used extensively by the Lancaster school of gunsmithing during the Revolutionary period. Bivins went so far as to make his own investment castings for all the brass parts, and above all else, there is almost an obsession for detail in engraving and stock carving.

Early in 1974 it was realized one man couldn't turn out 200 rifles reflecting such superb detail and artistic tastes, and this brought another famous American craftsman, Jack Haugh of

Versailles, Indiana, into the picture. Haugh is such a stickler for precision that he works under a magnifying glass to assure every detail will be perfect. The fit of the metal in the wood was most impressive to me.

The Bicentennial Commemorative Longrifle was born in Don Hartnett's mind, but in keeping with the true American tradition, the end product is the culmination of many craftsmen. Just selecting the hard Pennsylvania curly maple stock wood requires close examination of literally hundreds of blanks. Once a blank is chosen, shipment is made to George Hoenig of Boise, Idaho, for the roughing out process. This is not as simple as it sounds, for the 44" barrel is "swamped" or "tapered-and-flared." In other words, it is $1\frac{1}{16}$ " thick at the breech, tapers to $\frac{13}{16}$ " toward the middle and then flares to $\frac{7}{8}$ " at the muzzle. From my limited stockwork a few years back, I know this is a complex maneuver and I got nervous just thinking about the difficulty of inletting the barrel into the full length stock.

Barrels are produced by Robert Paris

MOST OF THE BICENTENNIAL LONGRIFLES will doubtless be purchased by collectors; nevertheless, each rifle will be a fully operational arm, suitable for hunting if desired.



& Son of Gettysburg. It's a seven groove setup with one turn in 48 inches. Lands and grooves are of equal width, which duplicates the European jaeger system that is considered the most accurate. Groove depth is between .008" and .010".

I seldom see a black powder barrel that doesn't make me think of the painstaking work performed by early gunsmiths in rifling a barrel. In those days, the 'smith didn't have equipment that could cut or swage lands in a matter of minutes. Rather, rifling was a laborious job of pulling a hickory rod with a cutting head on it through the barrel countless times. The rod slid through a homemade jig to assure the proper twist, and when the cutting knife wouldn't go any deeper, he would index and start another groove. This procedure was followed until all the grooves were cut to the depth of the cutter; then a piece of wheat straw was placed under the cutter to raise it, and the process was begun again. Days could be spent with this time-consuming method, requiring the gunsmith to take thousands of steps pulling and pushing the rod through the barrel.

Exact Caliber Unimportant

It's interesting to note that the exact caliber of the barrel was not of prime importance, as the gunsmith could make a mould for whatever diameter the barrel came out to. In the event of corrosion or pitting later on, the bore could be recut and a new mould made. Apparently, this could be done a number of times, and with money being very scarce, I would think the gunsmith with a rifling outfit was a busy person.

With a cost of over \$2,000 and only 200 being built, the Bicentennial Longrifle is undoubtedly a collector's item. However, each one is built to shoot and shoot well. A target is furnished with each rifle, and the ones tested so far stay in the 1½" category at 50 yards. As with any rifle, developing the proper load could improve the accuracy.

Consistent ignition is a prime requisite for any accurate rifle, and espe-

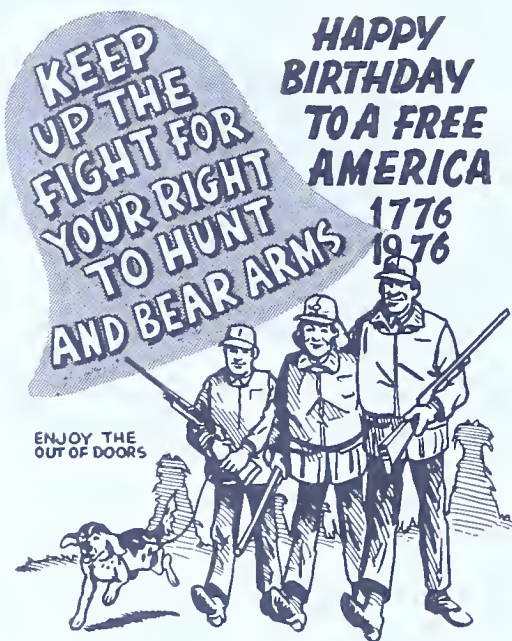


HARTNETT PREPARES to fire a shot from one of the rifles he brought into being. A target fired with his rifle is furnished to each buyer. Average 50-yd. group is about 1½ inches.

cially for the flintlock. The Bicentennial Longrifle's locks are by C. E. Siler of Ashville, North Carolina. I didn't get an inside look, but tests have shown the lock is designed to "drop" the sparks into the priming pan. With the priming charge exposed to the elements, it's very important the flying sparks make quick contact with the priming powder.

Siler uses three different types of steel in the lock setup, but I won't get involved with the technical ramifications except to say that the parts are made by investment casting and then heat treated to 1550 degrees and quenched in oil. After the heat treating process, the various parts are "drawn" to different hardnesses, mating each with the job it's designed to do.

I know many centerfire rifle buffs think of the muzzle-loader as cumbersome, of low velocity, and inaccurate. That's not quite the case, although there's little argument against the fact the long rifle is not the easiest outfit to get through the brush. But that's where the criticism should end. Velocity is certainly not low to the point of having little or no power. When I first chronographed a flintlock of the Hawken type, I was thinking of speeds comparable to the 22 long rifle rimfire's 1200 fps. I found, however, that 96 grains of FFFg propelled a 214-gr. cast ball out the muzzle at better than 1600 fps. The same weight ball hit close to 1900 fps when the powder charge was upped to 142 grains. Surprisingly, the



A MESSAGE FROM
THE PENNSYLVANIA OUTDOOR WRITERS ASSOC. Inc.

average fps variation among the shots fired with each powder charge was no greater than with precisely concocted centerfire handloads.

Accuracy comes with understanding the eccentricities of the muzzle-loader and also with the ability to load each shot the same. I don't believe our forefathers were handicapped with inaccurate outfits. Some of the reports from the 19th century shoots would make the modern shooter envious. I broke poker chips from the benchrest at 50 yards with several outfits, and I have a Thompson Arms flintlock that will often cut a jagged "one holer" with three shots from the same distance.

The old rifle is accurate enough, but the drawback comes from not understanding how to set off the charge. With the modern centerfire, the shooter needs only a crisp trigger and even squeeze to get top results, but the flintlock in a sense has two ignition periods with a tiny time lapse between. I thought this variation would be very noticeable, but the time loss between

ignition in the pan and barrel is not much. But there is some. And it's this "some" that causes the novice shooter to miss. When the sight picture is held throughout the ignition sequence, the battle for accuracy is won.

Another distraction caused by the flintlock during firing is the sound of the flint striking the frizzen. The centerfire shooter never hears his firing pin hitting the primer, but the flintlock shooter definitely hears the "scratch" of the flint against the iron frizzen. For awhile, this gives the impression the shot is fired and the sight picture is not held long enough for a complete burnout. Wearing ear covers or plugs will help overcome this problem.

Being somewhat of a tinkerer and homespun inventor, I don't live much in the past but try instead to practice the philosophy that a better mousetrap can always be built. My mind revolves around new catridges, better gun design and what's in store for the shooter of the future, but that doesn't alter the fact not everyone thinks as I do. Many thousands of hunters and shooters appreciate the antique guns and folklore of America's past. I'm quick to admit the hunter who dons buckskins, powder horn and flintlock to match hunting skills with the Pennsylvania whitetail is not an eccentric, but rather a hunter who wants to shake the modern trappings and hunt as our forefathers did.

The Bicentennial Commemorative Longrifle, complete with scrimshawed powder horn by Thomas White of Worthington, Ohio, is truly a credit to all the people involved. It does represent Pennsylvania in a manner befitting a great hunting and shooting state where the hunter still plays a major role in conservation and ecology, and we owe a debt of gratitude to men such as Don Hartnett and George Ebner, Executive Director of the Bicentennial Commission, for selecting this long rifle to represent the Commonwealth at this historic time.

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COVER PHOTO BY KARL MASLOWSKI

A quick yellow flash, an exuberent chirp, and away flits a bird whose bright little body lends so much pleasure to summer months. Like a liquid gold roller coaster, a goldfinch dips and swoops in flight, sounding musical notes at each peak. A flock of hundreds, like scattered buttercups in the fields, will burst up into trees or telephone wires when startled, and then settle back down to eating flower and weed seeds. Favorite foods are thistles (the seeds are eaten and the down is used to line nests) and dandelions. Look for goldfinches in woods edges, fields, meadows, lawns and gardens.

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Euphemistically Speaking

“THE INDIVIDUAL WITH WHOM you wish to communicate has passed away. . . .” Wait a minute, what was that? Oh, you mean the man I want to talk to is dead. Why the heck didn’t you say so in the first place?

Strange beginning for an editorial, but it illustrates classic use of (and reaction to) the euphemism—substituting an agreeable expression for an unpleasant one. As a writer, I learned long ago to avoid euphemisms. My college profs called them weasel words, words which obscure truth rather than reveal it. But a lot of people use euphemisms—politicians, business executives, oil company “spokesmen” and others who don’t quite believe in the honesty or rightness of what they are saying.

And aren’t hunters guilty of this too? You bet. Just pick up a news release or magazine put out by a conservation or hunting outfit. Count how many times “tagged,” “bagged,” “took” and “harvested” appear. Then count how many times the word “killed” comes up. It’s right there in black and white; hunters constantly deny that they kill birds and animals.

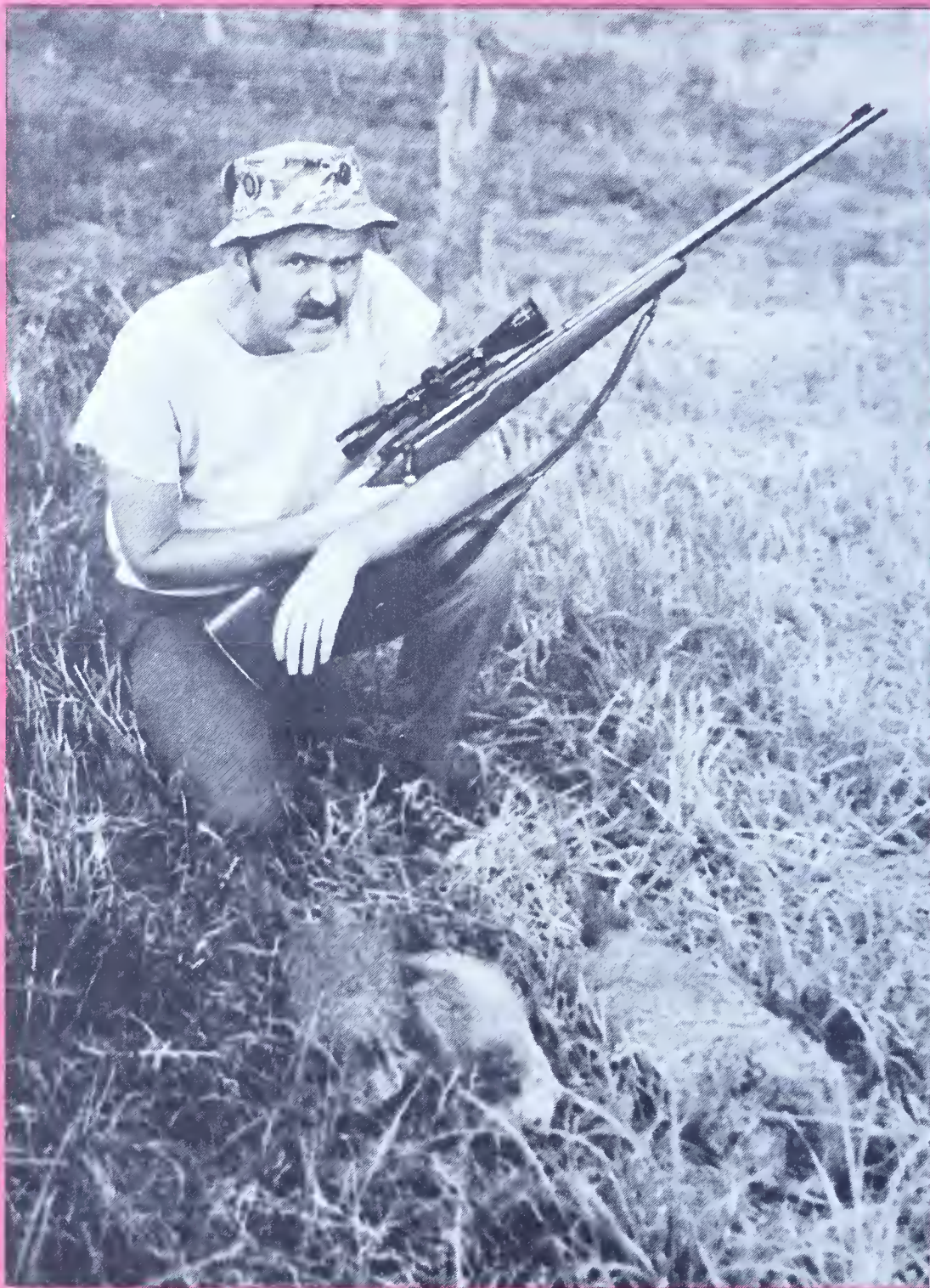
We say we hunt to experience oneness with nature, enjoy scenery or fall leaves, stalk game, on and on, when the true and final object of a hunt is to kill. Without an intention to kill, a hunt has no meaning. And the killing is actually an act of love: as a hunter I *care* enough about a deer to kill it, and to admit to any and all that I both love the animal and the act of killing it—as well as backing up this love with money and efforts that help deer and improve their habitat.

When we refuse to admit the kill, we cheapen it. And this is dangerous; don’t think for a moment that anti-hunters (and neutral non-hunters too) don’t catch the disclaimer. They aren’t stupid, and they interpret page after page of euphemisms as an admission that hunting is wrong.

I’m not suggesting we go overboard in the other direction, with bold headlines such as “Buck Kill Skyrockets to All-Time High” or “400 Burly Bruins Gunned Down.” Language like that is inflammatory and paints the wrong picture. Because even though we hunt to kill, killing is not the only reason we hunt. There are other important reasons, ranging from relaxation to the necessity for controlling some wildlife populations.

I’d like to see hunters and conservation agencies admit that killing is an integral part of hunting. I don’t think hunting or killing game are wrong, and I believe the majority of hunters agree with me. As hunters, we’ve helped wildlife infinitely more than we have harmed it. So what are we ashamed of?—*Chuck Fergus*.

(Chuck Fergus is a former GAME NEWS staff writer who lives in State College. He is presently a freelance writer and photographer.)



Reflections of a Chuck Hunter

By George H. Block, III

THE STUBBLE in the field poked through Ed's light shirt as he crawled up to the fence, trying to pass for an inoffensive sheep. As he reached his chosen spot, he slipped the tiny but valuable bipod over the fore-end of his rifle, got into position and steadied the crosshairs of his 3-9x Leupold on the woodchuck on the far hill.

"How far?" he asked.

"Three-fifty or a little better," I guessed.

With that his 6mm barked and through my binoculars I saw the chuck collapse, dark tail erect, signaling a hit.

I felt a little like a prodigal son. Three years had passed since I had last fired a shot at a woodchuck. Too much fishing and working had kept me from hunting this fine game animal, but this year I was determined to change that.

Our state has a great hunting tradition. Pennsylvania is the state where the opening of deer season is the year's big holiday for a million hunters, the state that annually has a kill of well over 100,000 whitetails, the home of rabbits, pheasants, squirrels, turkeys and bear in great numbers. Pennsylvania is the outdoorsman's state, with almost countless shooters and a gunsmith at every crossroads.

Having grown up in rural Pennsylvania, how could I help but become a hunter at an early age? Rifles are my first love, so naturally my first game was woodchuck, for chucks are considered a rifleman's game.

In those early days, before my first 22 rifle, I walked the railroad tracks with my father. He was a coal miner, and every time John L. Lewis called the miners to strike, Dad supplemented the table with young groundhog. I guess we were poor at the time, although I didn't know it, for Dad's only gun was an old single barrel 16-gauge Springfield shotgun. (I often look upon my array of fine rifles and wonder if any of them will ever have as much meaning for me as that old shotgun leaning in my closet.)

I was only seven or eight at the time, so I was strictly a spectator on those hunts. Dad would walk along the tracks hoping to get close enough to a sunning chuck for a nice, clean shot. If he spot-

ted a groundhog darting into its den, he just passed on by, then doubled back and sat near the hole, waiting patiently. I learned much in those days. The constant chatter of birds, the straining of young eyes to see the quarry before Dad did, the stump or rock that looked just like Old Man Groundhog—all added to my growing knowledge. The itch that had to be scratched when Dad wasn't looking, the slap at the gnat and the resulting noise that could be heard at least a mile away, the longing for icy cold lemonade. The blacksnake that just had to be 30 feet long—or was it a copperhead? The heat waves shimmering above the railroad tracks, and Pop raising his shotgun. The wonder as that old gun belched and jarred him back. Surely that old smokepipe was a fearsome weapon, for no firearm used by either cowboy or Indian could create such a fearsome recoil.

Shifted to Rifle

In the '50s, as I grew into the 'teen years and became a hunter myself, I realized how foolish my father had been. Chucks were supposed to be hunted with a rifle, and no civilized person ate them. For many years, in my youthful wisdom, I would never admit having eaten woodchuck.

Now, many years later, I found myself lying in a field in southwestern Pennsylvania with my good hunting partner Ed Haley. We weren't carrying shotguns as my father had, but were armed with modern scoped rifles. My binoculars alone were worth many times the cost of my father's old shotgun. I had been hunting and fishing with Ed for perhaps a dozen years, and had found him to be a perfect hunting partner—unselfish, safety-conscious, and most important, just good company.

We had both run the gamut of chuck hunting, from the 22 rimfire to highly specialized equipment. My first full-fledged varmint rifle was an old 340 Savage in 222 with a 4x scope. I took quite a few chucks with this inexpensive outfit. Later I bought one of the most beautiful rifles I have ever owned, an early Sako in 222. This rifle was very accurate with my reloads and com-



A WOODCHUCK ALWAYS keeps an eye peeled for danger, and it can be a tough critter to outsmart. Some hunters stalk in close, others prefer long range shooting.

pletely satisfied my needs—until I started hunting with a friend who owned a 243. While he took varmints at 400 yards, I was limited to 250 or less.

At the time I was raising a young family, and my resources were limited, but I knew that I needed a flatter-shooting rifle; so (to my later regret) the little Sako went. I swapped it for a heavy-barreled 243 Sako. With a 10x Unertl scope, this outfit proved to be a tack-driver with 85-gr. bullets and 45 gr. of 4350. I probably killed more game with this rifle than any other I've ever owned, for I hunted at least three days a week, and usually killed 10 or more chucks each trip. Most shots were at ranges of 300 to 450 yards. People talk of taking varmints at 500 to 600 yards, but in all my hunting, I have never seen a person who could do it with anything but their typewriters or mouths. Sure, everyone makes an occasional hit at these ranges, but it's more accident than skill.

After two years of hunting, my 243 barrel started to go at the throat. Where I was shooting groups of $\frac{2}{3}$ to $\frac{3}{4}$ inch before, it was now opening up to $1\frac{1}{2}$ inches. There was only one logical solution, so I rebarreled. Always having been fascinated by the hot centerfire 22s, and wanting something different, I went to the cartridge that at that time was a wildcat, the 22-250. This turned out to be the greatest long-range chuck rifle I have ever owned.

With a 55-gr. bullet loaded ahead of 36 gr. of 4064, this rifle shot much flatter than my old 243, and at first I had trouble overshooting at the longer ranges.

Some hunters will argue that at 200 yards a 243 is traveling just as fast and therefore shoots just as flat as a 22-250. This just isn't so, for while they're right about velocities being equal at 200 yards, they forget the 22-250 got there first, and time of flight is the determining factor in drop. When the time of flight of two cartridges is equal, the drop will be equal; and a 243 doesn't catch the 22-250 until beyond the 500-yard mark—farther than what I consider practical range. I can only say that with this outfit, I made more long shots than with any other. I used to joke, "Any chuck I get on within 300 yards is automatic."

Binoculars a Must

Our style of hunting then was to sit on a hillside overlooking a field where we could spot chucks out to 500 yards. A good pair of binoculars is a must for such hunting. The longer shots require a rest, and after trying several commercial and homemade rests, I have settled on a small bipod. The advantages of its size more than make up for the fact that it has to be used from the prone position.

Hunting like this can be quite relaxing. We usually take turns shooting and between shots some of our best fish

ave been re-caught and the largest
ucks killed again. That's part of long-
ange chuck hunting; it's a sport that
oesn't require super stealth or quiet.
Much of the time is spent in a relaxing
all tale session. Groundhogs depend
n keen eyesight for defense, so soft
alking doesn't disturb their sense of
well-being.

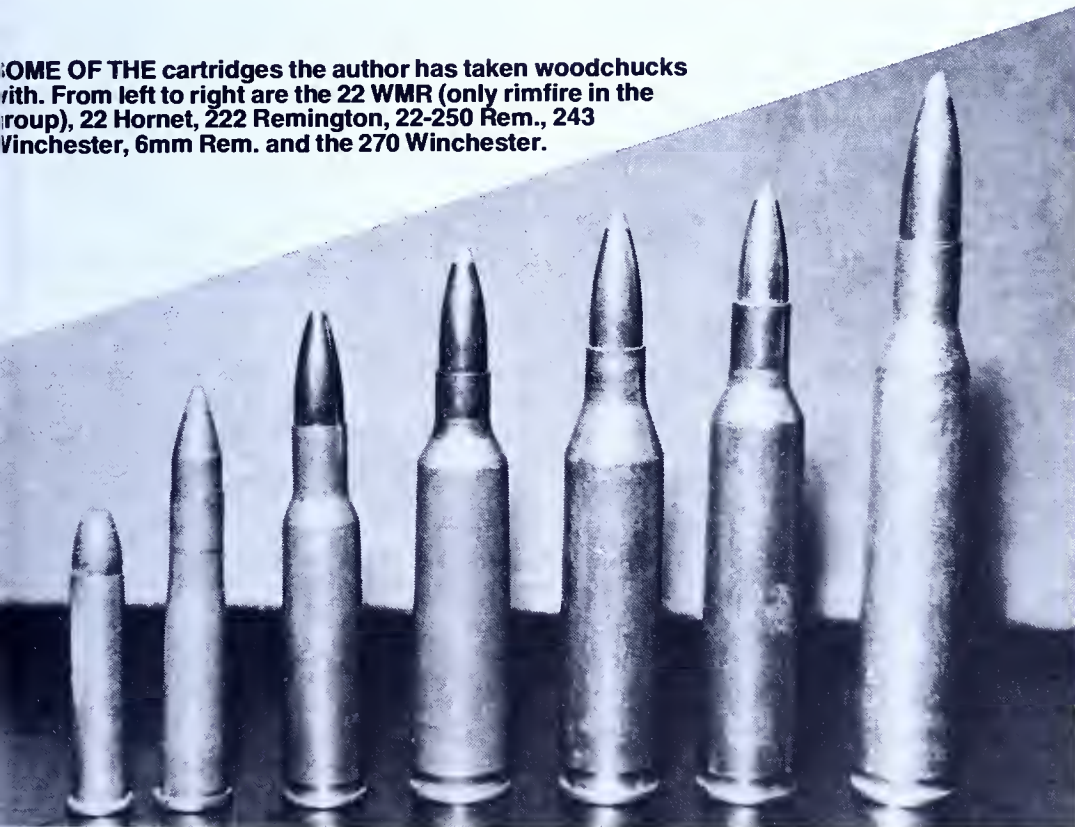
But as the years passed, I found the
eavy rifle too confining. Maybe it was
ld age catching up to me, but I lost my
nthusiasm for toting it over the hilly
ountry of my favorite hunting
ounds. I re-evaluated my need for
he long shots to satisfy my ego, and
ealized that this sport is what you
ake it. A 400-yard shot with my heavy
2-250 was actually no more difficult
han a 75-yard head shot with a 22 rim-
re. The person who crawled up on his
hucks to shoot them with either a
andgun or bow and arrow was getting
s much pleasure from his way as I was
rom mine. All too often, we as hunters
ook down on and criticize the other
ellow's game. I now realize the best
armint rifle is the one you own and get
leasure from.

I remember that during the early pe-
riod when I was hunting with lighter
rifles but looking forward to the longer
shots, I took a young hunter named Jim
Longbon with me to show him how it
was done. Jim had hunted before, but
never woodchucks; so there we were,
the old pro and the novice. We went to
a local farm I had hunted before and
after two hours of hunting, Jim had me,
three chucks to two. We were taking
turns shooting my old Remington 244,
and since it was my rifle, and I was the
more experienced hunter, the situation
was embarrassing to say the least.

No More Chucks

Quitting time neared, and no more
chucks were showing themselves; that
is, none but one we had been watching
off and on through the spotting scope
but had not tried for because of the
great distance. This chuck didn't look
much bigger than a dot in my 7x50
binoculars, and only his movement
showed me where he was. Time was
drawing short, and my reputation was
at stake, so I made a decision. I was go-
ing to shoot that groundhog.

SOME OF THE cartridges the author has taken woodchucks
with. From left to right are the 22 WMR (only rimfire in the
group), 22 Hornet, 222 Remington, 22-250 Rem., 243
Winchester, 6mm Rem. and the 270 Winchester.



I slipped the bipod over the rifle, got as comfortable as I could, and asked Jim, "How far would you say?" He only shook his head and said, "If you told me it was 1000 yards, I wouldn't call you a liar." I still can remember holding what looked like six feet over his back, and then thinking better of it and raising the crosshairs that much again. As the rifle sounded and the echo died away I asked Jim, "What happened? Where'd I hit?"

"I couldn't tell, but the chuck hasn't moved! The only thing I saw was, he threw up his leg."

"That wasn't his leg," I said confidently, "that was his tail!"

Success Confirmed!

After sitting for a few minutes and detecting no movement through the spotting scope, we crossed over two fields to see if I'd really hit. Success was confirmed! Of course, I tried to convince my young partner that such hits came from practice and skill, but deep down I knew it was nothing but luck.

I continued to drift away from the more specialized varmint equipment until eventually I found myself hunting with a handgun. The majority of my chucks were taken while casually hiking the countryside with my Ruger Single-Six in 22 Magnum. Once, as I was sitting patiently waiting for a chuck who'd ducked into his den, it occurred to me that I had come a full 360 degrees in my hunting. Was what I was doing so much different from what my dad had done so many years ago along those railroad tracks?

The last few years had found me too busy to do any summer hunting, but after missing a potential Boone & Crockett buck the previous deer season, both Ed Haley and I vowed we'd hunt this summer. For the first time I could remember, Pennsylvania had a closed season on chucks. For years I have been an advocate of protecting these fine animals in the spring when they are rearing their young, and

was overjoyed when the Game Commission announced they would be protected from fall until mid-June.

The first week of the open season found us at the scene opening my story. We had gone to our past haunts only to find the fields uncut, and had to seek new grounds. We found a partly mowed farm, and stopped to ask the owner's permission to hunt. He was a real deer hunter, having 13 heads of eight points or better, so we hit it off immediately. Although his farm wasn't completely mowed, we had a great evening, getting nine chucks out of a dozen shots. The longest shot, about 450 yards, I nailed with my old pre-'64 Model 70 in 270 caliber. My reloads consisted of 110-gr. Sierras ahead of 59 gr. of 4350—a load that has shot extremely close in every 270 I have ever owned. We not only had a great day of hunting, but also got much-needed practice with our deer rifles at unknown ranges, and were invited back for more chuck hunting *and* for deer season.

Prepared to call it a day, we made our rounds and picked up the chucks we had shot. Directly in front of us at about 145 yards a chuck popped up for a quick look around. From the standing position, I raised my rifle and stared through the scope. As the crosshairs settled, I gently squeezed the trigger. The 270 cracked and the large chuck just tumbled over. It wasn't an easy shot, I assure you, but that's the way we hunt. Anything under 200 yards gets taken offhand or not at all.

As we walked over to pick up the chuck, I thought of the modern equipment my buddy and I were using. Then I thought of an old man taking his single barrel shotgun and son to shoot a groundhog for the table. Although most modern riflemen wouldn't even consider his style of hunting, I wonder if we really know what it's all about. That's the beauty of hunting chucks—from shotgun to rifle, from 25 to 500 yards, it's everyone's sport.

Northeast Fish and Wildlife Conference

By Ted Godshall



LIEUTENANT GOVERNOR Ernest P. Kline, left, confers with executive directors Ralph W. Abele, PFC, and Glenn L. Bowers, PGC.

NEARLY 700 LEADERS in fish and wildlife management were on hand for the 32nd annual Northeast Fish and Wildlife Conference, held in Hershey April 26-29. Involved were scientists, professional resource managers, field personnel, business executives, and state and federal government officials in the fields of renewable natural resources. Fifteen northeastern states and five Canadian provinces were represented. The Pennsylvania Game Commission and the Pennsylvania Fish Commission were hosts for the conference, the first held in Pennsylvania since 1965.

Sponsoring organizations which held their annual meetings concurrent with the conference were The Northeast Section, The Wildlife Society; Northeast Division, American Fisheries Society; Conservation Law Enforcement Chiefs Association; Northeast Society of Conservation Engineers; Northeast Conservation Information and Education Association, and the Northeast Association of Fish and Wildlife Resource Agencies.

In the opening address, the state's lieutenant governor, Ernest P. Kline, set the tone of the conference when he urged restyling of renewable resource management to meet the needs of the future, pointing out that there need not be a choice between ecological concern and industrial progress. He said careful stewardship of wilderness areas and fish habitat can result in preservation of the "ecological hub" and avoid a confrontation between those who would despoil the environment and those who would block all progress.

A Pennsylvanian was one of three top award winners when certificates of recognition were presented by The Northeast Section of The Wildlife Society. Robert Waldeisen, of Barbours, received the prestigious certificate in recognition of his improvements of immobilization techniques for capturing wildlife. Winner of the second certificate was Richard E. Griffith, Boston, Mass., who retired last year as director of the U.S. Fish and Wildlife Service's northeast region. The third person honored was Patricia Reixinger, a

student at Cornell University, who received the P.F. English memorial award, named for the late wildlife management professor at Penn State.

The theme of the conference, "Assessing Our Success as Natural Resource Managers and a Look at the Future," was discussed by panelists Earl J. Miller, president of the Pennsylvania Electric Association; Dr. Charles L. Hosler Jr., dean of the college of earth and mineral sciences at Penn State; Daniel A. Poole, president of the Wildlife Management Institute; and John Gottschalk, executive vice president of the International Association of Game, Fish and Conservation Commissioners. Moderator was John L. George, professor of wildlife management at Penn State.

Wildlife Program

The wildlife program included such subjects as Pennsylvania's outdoors, pheasant harvest in Virginia, the potential for reestablishing fox squirrels in portions of their former range in the northeastern states, unretrieved big game left by hunters, the outbreak of hemorrhagic disease among white-tailed deer, open marsh management, aspects of open marsh water management procedures on clapper rail production, heavy metal accumulation in muskrats in relation to water quality, the effect of increased trapping pressure on the age structure and stability of an estuarine muskrat population, preliminary observations on otter description and habitat preference with descriptions of otter field signs and wildlife resource assessment for environmental impact statements. Wildlife managers also devoted a day to the third eastern black bear workshop and evaluating clear-cutting practices in hardwood forests.

Law enforcement personnel considered the effect labor relations have had on independent conservation agencies in Pennsylvania, national marine fisheries service law enforcement on land and sea, the law enforcement administrator's role in meeting the challenge of the 1970s, the use of aircraft in fish and wildlife law enforcement, combating unlawful interstate

and foreign commerce in wildlife, past, present and future warden service, Endangered Species Act enforcement, and coordinating local police departments with fish and game law enforcement. A field trip was also taken to the Pennsylvania State Police Crime Laboratory to review the application of forensic science in wildlife law enforcement.

Engineers reviewed topics such as shoreline erosion control on rivers and bays, development in harmony with wildlife, water quality parameters, implications of land management practices on water resources, waste treatment system for trout hatchery, Pennsylvania fish culture improvement program innovations and renovations, power plant siting, and heated sea water. A tour of the Big Spring and Huntsdale Fish Cultural Stations of the Pennsylvania Fish Commission and a field trip to the Peach Bottom atomic power plant, the Muddy Run pumped storage power plant and Ichthyological Associates laboratory in the lower Susquehanna River area also were scheduled.

Information and education personnel had the following subjects on the agenda: Pennsylvania vignettes, the northeast deer program, characteristics of deer hunters, Operation Good Neighbor, agency cooperation, exhibit innovations at the William Penn Museum, and natural resource management and environmental education.

Three concurrent sessions (general, marine and symposium/panel discussion) were held in the fisheries program, covering 79 individual subjects.

Special meetings and presentations were held during the conference by the directors and commissioners of fish and wildlife resource agencies, black bear workers, shore and upland migratory bird committee, northeast fur resource study committee, northeast wildlife teachers, the Western Pennsylvania Conservancy, the Northeast Marine Fisheries Council, the Northeast Section of The Wildlife Society and the Northeast Division of the American Fisheries Society.

GAME COMMISSION vehicles line up at Hershey Convention Center, Hershey, Pa., where 1976 edition of the Northeast Fish and Wildlife Conference was held.



LAW ENFORCEMENT personnel at the conference took a field trip to the Pennsylvania State Police Crime Laboratory. On right is Harvey Roberts, Deputy Executive Director for the PGC, who served as Conference Chairman.



GAME COMMISSION employees Pam Hoffman, above right, and Lou Hoffman helped do those things that make a conference flow. Banquet, below, was also held at the Hershey Center.

BELOW, Glenn Bowers addresses gathering of fish and wildlife conservationists.





—H.B. McLAUGHLIN—

Grouse Without a Dog

By Earl J. Fairman, Jr.

FOR ANY HUNTER who wants a real challenge in wingshooting, the ruffed grouse is the bird to hunt. More challenging yet is to hunt them the way I do—without a pointing dog.

I started grouse hunting in 1973, and in two seasons bagged 58 birds, hunting in Pennsylvania and West Virginia. I averaged 30 days of grouse hunting in those two years. Far too many people are discouraged by grouse hunting. Believe me, there are more birds in some areas than you can handle! On a good day I can flush 25 birds without the help of a dog.

Grouse hunting requires knowledge if any significant number of birds is to be found. An experienced grouse hunter can walk into a woods and know if birds are present and where to find them. The winter months, when all the leaves are off the trees and the snow has fallen, are the best time to hunt grouse. It is easier to spot a speeding brown target against a fresh blanket of snow than against autumn foliage.

Hunt the Thick Stuff

The thunderbird will be found mostly in dense, almost impassable cover. If you are not constantly getting hit in the face with branches or falling over logs, then you're hunting for grouse in the wrong places. Look for birds in areas that have been timbered or stripmined in recent years. These places provide fresh, young undergrowth and piles of cover from cut trees.

The name of the game is to hunt hard. When grouse hunting, your senses must be alert to the point where nothing else enters your mind. Never let your mind wander off the subject. If you do, that's when a bird will flush, making a fool out of you. To be in top physical condition, have fast reflexes and good hearing helps you find and bag those birds that hide in dense grapevines, greenbriers, pine stands, and old crab apple orchards. The more

area you cover thoroughly, the more birds you will flush. I average about fifteen miles per hunt.

Step on every pile, no matter how small. Grouse hide in the most unbelievable places. I have walked right past small brushpiles thinking them too small to hold a bird, and for no apparent reason, changed my mind and went back and flushed a bird from that little pile. In particularly good cover, stop every so often and wait a bit. This makes a grouse nervous and tricks him into thinking you have seen him, so he flushes. Whether you get a shot at him or not, remain in that spot a few moments longer because you may get a multiple flush. I've had this happen to me. Zig-zagging through the cover also makes the birds nervous and causes flushes.

Grouse also can be found just inside the edges of woods near a field or power line. Don't neglect these places.

You may occasionally find a bird where you don't expect him to be, perhaps in open timber or wet bottom lands. But take the better odds. You will flush more birds in dense cover.

Learn to evaluate grouse cover and you will flush just as many birds in one day as a well-trained dog will. I hunt without a dog because I feel it takes more ability to locate and flush birds myself than it does with a dog, so I get more satisfaction this way. You're not fully prepared for the flush if you do it yourself, as you are when a dog points it out. If you do flush a bird and get it on your own, you know it was your skill and not the dog's.

When hunting without a dog, think ahead. When you spot likely cover that may be hiding a bird, walk into it at the best possible angle, so if a bird does fly he provides you with a fairly open shot. You can often direct the flight of a bird to your liking. Don't worry about all the branches in your way. Just shoulder that gun quickly, point, lead and squeeze the trigger.



THE THUNDERBIRD will be found mostly in dense, almost impassable cover, and the name of the game is hunt hard and long, and stay alert at all times.

When hunting hillsides, always hunt vertically on the hill, not horizontally. Birds flushed uphill will rise above the cover to go over the nearest ridge. A grouse flushed while you are working downhill will also rise above the cover line and head down to the nearest hollow. These flushes usually provide you with a shot. When you put up a bird walking around the side of a hill, he will disappear right through the middle of the densest cover. If you do try a shot like this and miss, stop cussing to yourself and watch the bird. Seldom do grouse land farther than 60 yards away. Sometimes they can be reflushed three or four times. Be persistent. Don't give up. Keep hunting hard. You'll be rewarded in the long run.

Hunt with the sun to your back. Grouse like to blind you by flying into the sun. Don't give them the chance.

When it's windy, you have to hunt extra hard. Grouse don't like wind and sit tight. During windy conditions, look

for them in deep ravines or on the sides of hills that protect them from cold breezes. Hunt with the wind to your back. You don't want the wind blowing into your face and making your eyes water or blowing in your ears. This lessens your chances of hearing birds flush, and you normally will hear them before your vision picks them up.

Nobody is perfect; if you drop a bird that runs, look for him. Start by looking for feathers. Then head for the closest and heaviest log pile or thicket. When a grouse is wounded he runs for the closest cover and stays put. On one hunt I spent an hour and a half looking for a bird I had dropped before finding it only 15 yards away, huddled under a log.

Hunting grouse in heavy brush requires that you dress properly. Always wear some type of glasses to prevent limbs and branches from hitting you in the eyes. Dress lightly. Grouse hunting requires a lot of rough walking. You may be chilly for a little while, but this is to your advantage. Heavy clothing only tires you out and slows your reflexes. Good boots are a must when walking for several hours straight.

You may or may not want to wear gloves, but they do protect your hands from brambles, etc. Flexible, light golf gloves or tight-fitting buckskin are best. A light hat is essential to keep the sun and rain off your face. Most important, wear some item of blaze orange. It might save your life.

Light, Fast Shotgun

As for the type of shotgun, the choice is yours. I recommend one that will fire at least two shots quickly and that weighs 6½ pounds or less. The lighter the shotgun, the faster you can handle it and the less tiring it will be to carry over a day's hunt. However, it's possible to get a too-light gun, one which will bounce when it hits your shoulder instead of staying on target, so don't go to an extremely light model. Unless you are a genuine expert, stay away from the 410 and possibly the 28 gauge. They don't handle enough shot. I've had good luck with both the 20 and 16 gauges, and of course you can get even heavier shot charges in the 12. This is

an advantage, for in dense cover many of your pellets will be absorbed by the foliage before they have a chance to reach the bird.

Open choke guns are best for grouse, as most shooting is done at under 25 yards. A skeet gun works fine. Probably the most suitable hunting double that's readily available is one bored improved cylinder and modified, and this is an excellent choice. In a pump or autoloader, I like the IC boring, or an adjustable choke. Barrels should be short, for fast easy handling.

Since most grouse shooting is at short range, shot size should be on the small side. You don't need the ranging ability and penetration of large shot but you do need large, even patterns. The smaller sizes give these. Everything considered, size 7¹/₂ or 8 is best choice, in my opinion.

My favorite grouse gun is a Franchi 12-gauge autoloader weighing 6 lb. 4 oz., choked improved cylinder, loaded with low brass 8s for the first shot and two high brass 7¹/₂s for the following shots. My partner, Joe McKinnon, uses a 12-gauge Franchi with a barrel chopped to the legal minimum (no choke) and uses handloads of 1³/₈ oz. of 10s, which are also very effective.

As you probably can tell, I am a dedicated and enthusiastic young hunter, with grouse being my specialty. Try hunting this challenging bird and you will love it, whether you hunt with a dog or without one. Remember to save those fantails because they don't tell lies.

After you have bagged your bird try this great recipe for stuffing:

- 1 lb. pork sausage
- 1 bag or box croutons
- 1 can cream of mushroom soup
- Sprinkle of celery salt and onion salt

Brown sausage in a skillet and drain most of the grease off. Mix the sausage with the croutons. Pour soup over sausage and croutons and mix. Sprinkle with celery salt and onion salt. You may want to add a little water if the mixture does not seem moist enough.

Grouse can be too dry when cooked. The sausage and soup in the stuffing add some moisture. Also, rub the bird with some melted butter. Another tip for some added moisture and flavor is to peel and core an apple and attach it to the bird with toothpicks until the apple is soft, then remove it. Baste the bird often to keep it moist. Bake at about 350° for approximately 1¹/₂ hours. The result is a delicious bird and out-of-this-world stuffing.

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KEYSTONE STATE'S pheasant harvest has been over 1,100,000 birds in recent years, making Pennsylvania one of the top five pheasant states in the country.

FLUSHING OUT THE PHEASANT FACTS

By Fred E. Hartman

PGC Research Biologist

The following article summarizes 13 years (1961–1973) of pheasant research in Pennsylvania. The data gathered in this investigation have led to better use of game-farm ringnecks, have identified land management practices benefitting pheasants, and have improved our insight into pheasant life history, behavior, and populations.

THREE-FOURTHS of Pennsylvania's million-plus hunters, as well as tens of thousands of nonresident gunners, spend many wonderful autumn days afield in pursuit of the ring-necked pheasant. This bird's abundance and its sporting qualities lead hunters to rank the pheasant high among game species in Pennsylvania. The state pheasant harvest in recent years has been over 1,100,000 birds, which makes Pennsylvania one of the top five pheasant states in the country in terms of numbers harvested. Native

ringnecks comprise about 90 percent of the state pheasant kill. In primary range they make up almost 100 percent of the harvest.

In primary range, 90 percent of the cockbirds are harvested. Of those taken, 90 percent are juveniles. In spite of the high rate of male removal and winter sex ratios of only one cockbird to 8–14 hens, cocks are not overshot because male pheasants are polygamous—each one normally mates with several hens.

In much of Pennsylvania, hen birds are not hunted. However, they too are subject to high mortality. The average annual turnover of hens is 60 percent. Major causes of female pheasant loss are hay mowing, roadkills, and physiological stress. Stress occurs in all wildlife. In wild pheasants, it is usually

greatest in summer, when the hens are in their poorest physical condition due to the rigors of feather molt, egg laying, incubation, and brood raising. Most cocks are taken by hunters, but highway kills also account for a good number of males, particularly in late summer.

In Pennsylvania, pheasant range is classified into three types: primary, secondary, and tertiary. Primary range is the most important; at least two-thirds of our harvest occurs there. Most of the land in primary pheasant range is farmland, and most of the farmland is actively cultivated. Crops are diverse, with an abundance of winter grain, corn, and hay. Woodlots and idle land are minimal.

Winter Prompts Movement

As autumn progresses, then wanes, and winter waxes, pheasants are more and more on the move from their summer and early fall haunts to their wintering sites in woods and brushy areas. Pheasants go to the same wintering areas year after year. Each group uses the same site all season. We have noted marked hens that used the same concentration site for 3-4 winters. In a wintering area, pheasants roost at night (usually in trees) and spend much of the day resting, preening, and sheltering themselves from the elements, especially prevailing northwest winds. They may do some feeding here, but usually move out a short distance for this.

Pheasants winter together in groups of a dozen to several hundred. Their sites vary in size from thin quarter-acre strips to conifer plantings (at least 15 feet high) of one to three acres, to 30-acre woodlots (mostly hardwoods), and combinations and variations of these. The size and location of wintering areas, and the protection they afford from the elements, appear to directly affect the size of overwintering pheasant populations. Sites with southerly exposures harbor more pheasants.

In spring, pheasants move out from their winter concentration sites to nesting areas. Dispersal averages about $\frac{3}{4}$ mile (the shortest distance checked being 1000 feet, the longest 2.3 miles).

Birds travel "established," well-defined corridors from wintering areas to production areas. These pathways serve for daily movement, for moving from winter to spring areas, and for moving back to winter cover in autumn. They radiate from winter cover in many directions, with north, northeast, east, southeast, and south predominating.

Mid-March to mid-May is a major mortality period, when 12-20 percent of the wintering population are killed on highways. A lesser highway mortality period occurs in late summer-early autumn.

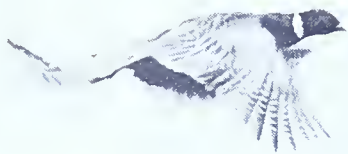
Early April to late July is nesting time. Most nests are started between April 25 and May 26, with nest initiation peaking in the first two weeks of May.

Most nests are found in the more abundant types of cover. More hay and winter grain are available than any other type of acceptable nesting cover; pasture, idle grass, and weed and brush areas are much less frequent and occur in smaller patches. Hay usually accounts for about one-third of the nests in an area, but this may go as high as half the nests.

Density Greater

The *density* of nests, on the other hand, is greater in brush and weeds (one nest per 4.5 acres) than in winter grain (one nest per 24.4 acres) or even in pasture (one nest per 11 acres). The highest density of nests is in hay, especially alfalfa (one nest per 2.7 acres). Mixed hay, with red clover predominant, has a slightly lower nest density (one nest per 4.6 acres). Since hay contains both the greatest number and the highest density of nests, you can see the importance of this type of cover to nesting hens.

There are drawbacks to nesting in hay, though. Mowing makes hay fields into death traps for nesting pheasants. Mixed hay and red clover are safer than alfalfa because these stands are mowed later. Unmowed or late-mowed hay fields are the safest nesting cover, followed by winter grain, odd areas of weeds, grass and brush, and pasture. Old weed fields are usually inferior



IN PRIMARY RANGE, 90 percent of the cockbirds are harvested. Of those taken, 90 percent are juveniles. In much of Pennsylvania, female pheasants are not hunted.

nesting areas because the vegetation tends to be sparse.

Nest density is greater in thick hay than in sparse stands. Pheasants prefer legume hays to grass hays for nesting, regardless of the density of the vegetation. The average peak of nest initiation occurs when alfalfa and alfalfa-red clover are 12 inches high, red clover-timothy 8 inches, winter grain 16 inches, and oats 4 inches. In spite of greater height of winter grain, more hens nest in the various hays. Possible reasons for this choice are (1) more usage of hay leaves as food; (2) more insects (another food) in hay fields; (3) greater horizontal density of hay plants, by branches and leaves, thus providing more cover; (4) more vegetative litter on the soil in hayfields; and/or (5) a more favorable microclimate in hay. Pheasant nests have been found more often in cover (hays) where temperature and drying effect are lowest.* The highest temperatures occur in grasses.

Farming operations, chiefly hay mowing, are the greatest cause of nest loss. Not only are eggs lost, but also some hens. On the average, 35 percent (range 20–60 percent) of the hens of destroyed nests are lost to haymaking.

*Francis, W. J. 1968. Temperature and humidity conditions in potential pheasant nesting habitat. *Journal of Wildlife Management*, 32 (1):36–46.

Our studies showed 68.5 percent of the nests were within 25 feet of a field's edge. Another 26.4 percent were located from midfield to 25 feet of the field's edge. Only 5.1 percent were found in the middle of a field. Of the nests located, 15.7 percent were placed in a field corner, 35 feet or less from each edge. A few nests were found in the same, or almost the same, spot in a field where nests had been located a year or two before.

More nests were located on the northern or southern edges of fields, especially the north, than on eastern or western edges.

Pheasant abundance in autumn depends upon the success of the reproductive season. A better-than-average reproductive season occurs when a wet spring and summer delay haying operations so that more nests than normal hatch before mowing and fewer hens are killed on nests. A dry season permits early hay mowing and causes more destruction of both nests and nesting hens. This means fewer chicks. During periods of drought in spring and early summer, the peak of hatching comes earlier than in wet years. These peaks depend on how much hay is mowed during the peak of pheasant hatching. In turn, the amount of hay mowed depends upon the amount of rain and the number of days it falls during this period. Three or four days of rain during a week usually interrupts hay making for that week.

Later Mowing Best

Generally, the later that hay is mowed, the more that hatching can progress, giving a later peak. Our examination of embryos from destroyed hay field nests indicates that if hay mowing were delayed seven to 12 days (until about the third week of June), nesting success would be considerably higher. This happens naturally in a wet spring and summer.

Ringneck numbers may be the same in an area, even in primary range, from one year to the next, or they may fluctuate widely. We've found that these fluctuations are caused both by a combination of mortality factors affecting fall populations (hay mowing, roadkills,

physiological stress, predation, etc.), and by inherent characteristics of the bird. As with most wildlife populations, pheasant numbers also fluctuate due to factors over which man has no control or influence.

All of these items can be influenced by weather conditions. At times, ringneck numbers vary as much as 50 percent from one year to the next. Too frequently, people say that more stocking is needed to return populations to former high levels. This is not true. Stocked birds do very little to increase native pheasant populations. It has been demonstrated that, left alone, lowered ringneck populations will bounce back in a year or so. It should be emphasized that when pheasant habitat (farmland) is destroyed or usurped for other purposes such as roads and developments, the pheasant population there is dealt a devastating blow from which it might never recover.

Most young pheasants hatch during the last week of May and the first three weeks of June. Brood size decreases from 9-10 chicks at age one day to five chicks at 10 weeks of age. More chicks apparently are lost in droughty summers than during normal and wet growing seasons. Protective cover and moisture are part of the explanation. Adequate cover areas with sufficient

moisture usually have a lot of insects and other invertebrates that chicks need and like. The denser cover offers more protection for broods. In contrast, during droughty summers the vegetation is not as dense and thus cannot protect and feed a hen and her brood as well.

On the average, 11 percent of pheasant broods result from renests. This is probably a minimal figure. Hens are more inclined to renest in a cool, wet summer.

Pheasant broods most frequently use hay fields, small grain fields (especially winter grain), idle areas, bottomland, and brushy sites such as fencerows. These cover types fill the requirements of young birds. For the first several weeks, chicks stay within an area of 2-4 acres. Thereafter, they gradually expand their home range.

In an eggshell, these are the biological facts about pheasants and their populations. Hopefully, this information will give you new insight into pheasant life history, behavior, and populations.

Appreciation is expressed to Dale E. Sheffer, Chief, Division of Game Management, and John J. Kriz and William K. Shope, Research Biologists, Division of Game Management, for their assistance in collecting data. This is a contribution of Federal Aid Project W-64-R.

GAME NEWS Cover Prints Available

In answer to numerous requests, we can now supply a selection of GAME NEWS covers in a size and format suitable for framing. A set of four covers, all by internationally-acclaimed wildlife artist Ned Smith, now is available. These are full-color prints, enlarged to 9x12 inches on 11x14 heavy, coated paper, without the GAME NEWS logo. The set includes Ned's woodcock from the April 1974 issue; the woodchuck from July 1974; the doves from September 1972, and the buck and doe from the December 1971 issue. These prints are not available individually. The price is \$3 per set, delivered. Make check or money order payable to Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.

NUMBER THIRTEEN

By Bob Bleakley



A FEW YEARS AGO, when I was flying home from Colorado where I had taken a buck mule deer and a bull elk with the bow, I had nothing to do but stare vacantly at the white clouds outside the window and let my thoughts wander over my past hunts and what the future might hold for me. One thought, in particular, kept gnawing away at me—that I had now taken exactly a dozen big game animals with a bow, and that number thirteen, the

dreaded symbol of bad luck, might prove to be a stumbling block on the road to future success.

That same negative thinking continued to plague me during the following weeks before the start of our archery deer season in Pennsylvania. I had never been superstitious before, but that awesome number thirteen seemed to have been permanently etched on the cells of my brain. Never had I waited with so much anxiety for

that archery opening day to roll around.

Dad and I had decided, almost automatically, to go back to Potter County for our seventh consecutive season. When the big day finally drew near, we left home a day early in order to do some advance scouting. In addition to my Bronco, we took Dad's motor home for living quarters when we headed for our old hunting grounds near Wharton.

As soon as we got the camper set up for our five-day stay, we drove the Bronco up the mountain and started checking for deer sign. We twisted and turned along all the little dirt roads which spread out like a network of arteries from their focal point at a gas storage plant. Eventually we drove up one road which dead-ended at an old apple orchard. At the far end we saw three deer standing under a large oak tree.

Even though they were all does, something seemed to tell me this was the place. I decided to make it my spot for the first morning's hunt. All signs indicated that deer were using the orchard as a regular feeding place, and if they didn't vary their habits I figured they would appear the next morning. Everything seemed perfect.

Well-Worn Trail

We then scouted the woods downhill from the orchard and found a well-worn trail with fresh deer tracks leading in both directions, so Dad chose a stand where it would command a good broadside shot at any deer which passed along the trail. Now we were both set for the morning.

That evening as we drove around the area we counted 57 deer, four of which were nice bucks, so we were well satisfied with this year's prospects. We even had the rare experience of seeing a deer and three turkeys all standing under the same crab apple tree!

Near the bottom of the mountain a group of bowhunters from Ohio had set up camp and were preparing dinner. In the meadow behind them, not more than 75 yards away, 15 deer grazed. One doe was sniffing around an old building, her head almost inside the door. I could imagine those hunters—they had sure picked a hot spot!

Later, as Dad and I sat eating in the camper, we could see another 20 or so deer feeding by moonlight in the field near us. That sight sure stoked our enthusiasm to the boiling point! I could hardly wait for morning, and as I lay in bed trying to get to sleep, all I could think of was how surprised our Colorado friends would be to see what a terrific deer herd we have here in Potter County, Pennsylvania.

Early Start

I had insisted I wanted to be in on my stand long before daylight; and, despite Dad's thinking that I was crazy to get there so early, he drove me to the apple orchard in the pitch dark and I found my way to the big oak. He went back to the car for an hour's sleep.

As I waited, I could hear things moving around in the woods near me, and I could hear the gas pumping station in the distance, but the only things I could see were the red and white lights blinking on the antenna of the radio tower above the treetops at the crest of the hill.

An owl hooting nearby brought me back to reality and to the realization that my left leg had gone to sleep. I quietly moved around to restore the circulation, confident that nothing would see my movements in the dark.

At long last the first signs of daylight began to appear. A brilliant blue jay landed in a nearby tree and began hopping from limb to limb. Some kind of green insect crawled down a branch beside me, apparently using his antennae to feel his way along, the way a blind man would use his cane.

Suddenly I heard a Jeep coming down the road above me. It stopped, a door slammed, and then I heard voices. Someone said, "There's a deer. Under that tree." Just then three deer came bounding past me, so quickly that I had no chance to get off a shot before they disappeared down the hill behind me. I began to regret having picked a spot so close to the road.

Half an hour went by, and again I heard a car. It stopped at the far side of the orchard, and soon I saw two bowhunters trying to sneak up on some deer over there. An arrow ricocheted

off some brush and the deer went sailing down the hill, white flags waving. I really got disgusted with all the interference when one of the hunters walked out in front of me and began searching for his arrow, but I stood silently and the hunter never even glanced in my direction. Finally, he gave up on the arrow and went back to his car. All was quiet again.

A little after 8 o'clock, I heard a twig snap, and a fawn passed within a few feet of me. With no hesitation it walked out into the orchard and began munching apples. A slight sense of something moving, off to the side, attracted my attention. As I slowly turned my head, I glimpsed the flash of antlers and almost immediately a beautiful buck stepped out of the brush and started walking straight toward me. Excitement surged through me. Come on, baby, come on! I mentally urged. Don't stop. Don't spook. Just keep coming.

The buck walked right past, then stopped to make a cautious survey before proceeding out into the orchard. He wasn't more than a dozen steps away, but there was just no way I could find a hole through which I could get an arrow to him.

Desperately searching for an opening, I began to kneel. With my bow almost horizontal, I started to draw. He spotted my movement and turned to look directly at me. He stomped a foot on the hard ground. I was caught in a very awkward position but froze immediately. Then I began to shake so badly I couldn't believe it. The buck, however, apparently decided I was nothing to worry about and moved slowly on, while I recovered my balance and my poise.

He stopped about 35 yards away in a

nice open spot where I had a perfectly clear, broadside shot at him. But for some reason, as I drew the string back to anchor, a flood of doubt invaded my concentration. Every bit of my confidence seemed to have drained away. Nevertheless, I held just about at the top of his back and released smoothly. I saw the arrow strike, but it was a little too far back.

Full Speed Take-Off

The deer took off at full speed uphill, in the direction of the road, then suddenly toppled over about 60 yards away! He seemed to be down for keeps.

Excitedly, I started hurrying toward him, expecting all the way that he would jump to his feet and take off. However, I had no need to worry. Number Thirteen was in the bag!

Excitement gripped me so that I never even turned the buck over before I ran down through the woods to tell Dad that I had just shot a 6-point. In spite of the fact that three does had passed by him and it looked as though he had a really good location, Dad immediately left his stand and came back to help me with my buck. When he hoisted the deer over so that I could start cleaning it, we discovered that it was a perfect 8-point, not a 6, and we found out later that it had a 16-inch spread—far and away the nicest white-tail either of us had ever taken. Also the most considerate, for it ran to within 20 feet of the road before it toppled over.

That hunt is one I will never forget. Even though I have taken another bull elk, a black bear and eight more deer since then, that morning when Number Thirteen belied its reputation for bad luck has never been surpassed by me, and probably never will.

First U.S. Open Turkey Calling Championship

The first U.S. Open Turkey Calling Championship will be held on Saturday, August 14, at Blain, Perry County, Pa. Starting time is 10 a.m. Contestants must be registered by 9:30 a.m. Callers may pre-register by writing Dean Ernest, RD 1, Loysville, Pa. 17047, or calling him at 717-789-3281. Entry fee is \$5. Trophies will be given to the top callers. The contest is sponsored by Blain Sportsmen and the National Wild Turkey Federation.



BINOCULARS, IDENTIFICATION book and checklist are tools of the birdwatcher's trade. More and more people are taking up this interesting, rewarding outdoor hobby.

Discovering Birds

By Eugene R. Slatick

HALFWAY UP the tree, concealed by leaves and branches, something flits around. Moments pass.

"I see it," a voice whispers down below, "—an American redstart!"

"I thought so, because of the way it moves," replies another soft voice.

That is a birding scene. The setting could have been quite different. The bird might have been a meadowlark in a field, a bittern in a marsh, a green heron along a river, or a house wren in your backyard. But the overall pattern is the same. There is the search, the expectation, the recognition of the bird, and the satisfying feeling that you are getting to know part of nature a little better.

The observers are, of course, birdwatchers—"birders." They are part

of a lineage that probably began about the time stone-age man sketched birds on cave walls some 10,000 years ago. They are clerks, housewives, hunters, businessmen—all kinds of people from all walks of life. Nationwide, they total about nine million.

Some will travel hundreds or thousands of miles to add new birds to their "life list," a score-card of the different kinds of birds seen first-hand. Others will devote hours or days studying some aspect of a certain bird's life. And still others take birding more casually, making it part of an occasional walk outdoors or a look at a backyard feeder.

Why do so many people watch birds? Why are there so many books, articles, pictures, and works of art about birds? Because they are interesting and easy

to see. They are colorful and diversified. They fly, sing, and migrate. And they share our lives in so many ways.

As a group, birds are plentiful. Somewhere recently you undoubtedly have seen or heard a bird. It might have been a common house sparrow searching for food on a city sidewalk. Maybe it was a chickadee hopping in some trees near your home. Or maybe you saw a ring-necked pheasant sneaking through a cornfield. At dusk a chimney swift may have flown overhead, swooping up insects. At night, if you were lucky, you may have heard the quavering whistle of the screech owl. The state list of birds contains almost 400 different species, both nesting and migrating birds. With a little effort and luck, you should be able to find 100–200 of them.

Two Basic Tools

If you want to try birding you will need two basic tools—a binocular and a field guide. The binocular will give you a closer look at a bird, and the book will help you identify it.

A 7-power binocular with a 35 mm objective lens (a combination signified as “7x35”) is readily available and a good choice. The 6x30, 8x30, or 8x40 binoculars are also satisfactory. Those combinations of power and objective lens will collect enough light for most viewing. The relatively large and often heavier 7x50 binocular, the “night glass,” collects more light and is good for dark days or in dark woods. Normally, though, you won’t need that extra light-gathering ability. A binocular of more than about 9x isn’t practical unless you have a very steady hand. For high-powered viewing at long distances, use a 20x60 spotting scope mounted on a tripod.

Several good pocket-size field guides on birds are available at moderate prices (see references at the end of this article). Use tabs to mark the pages that illustrate the different groups of birds. This will eliminate hurried searches through the index.

No matter how good the guide or how well it is illustrated, there will always be some birds that you just can’t identify with certainty. The light may

not be good, branches may be obstructing the view, or the bird may be a little too far to see any detail. If the bird is young, its colors may be different from those of the adult. In the fall, many adult birds, such as the warblers, are in drab plumage and can be identified only by an expert. A bird’s song is also a clue to its identity, providing you can match the sounds with the symbols or description in the book. Everything considered, experience makes identification easier.

Along with a field guide, you should have a notebook or checklist to record the birds you see. Such a record kept over several years can help you become aware of patterns or changes in the bird population. A change in the number or types of birds may indicate a change in the environment. A complete birding record includes the date, locality, time in the field, and the weather conditions.

The kind of birds you can expect to see depends on where you look for them and the season of the year. Certain birds prefer particular habitats. Some birds are here only part of the year.

Wooded areas are favored by such birds as the wood thrush, American redstart, and the blue-gray gnat-

JUNCO IS primarily a winter visitor in Penn’s Woods, although some stay here year-round. Woodlands, weed thickets and brushy fields are the junco’s preferred habitat.



catcher. Fields and meadows are the usual habitat of the meadowlark, killdeer, and field sparrow. Herons, gulls, and waterfowl are common sights along rivers. Some of the best birding often is along a zone called the "edge," an area where two different habitats blend together—the field and forest, for example. Some birds, such as the robin, cardinal, and song sparrow, are very much at home in yards and gardens. In general, you will find that birds are the most active during the early morning, particularly during the nesting season.

When the biological clock points to "migration," millions of birds start heading north in the spring and south in the fall. These are the times when you can look forward to seeing a variety of birds—those passing through as well as those remaining all year. The spring migration, which reaches a peak in late April or early May, presents the songbirds at their best. They wear the most colorful plumage and tend to be very active as they head for their nesting grounds. In the fall, when migration is at a more leisurely pace, many songbirds quietly head south wearing drabber plumage. Waterfowl attract the most interest then. But the hawks, riding the updrafts along the ridges, also draw large audiences. Hawk Mountain Sanctuary, the most famous hawk observation point in the world, is located north of Hamburg, so is within easy driving distance of many Pennsylvanians.

Developing the skill of finding and recognizing a variety of birds is satisfying and challenging enough for many. It is an art that sharpens the eyes and fine-tunes the ears. But birding can also satisfy anyone with a scientific bent. You can study such things as bird behavior, migration, habitats, populations, and song. Amateurs have contributed a lot of knowledge to ornithology, the science of birds. And for persons with artistic and photographic talents, birds have always been popular.

Many birds seem to have learned to live with us. Now many humans are learning that most of our birds can be interesting neighbors. They give us a tie-in with some of nature's ways. Our



GRACKLES ARE common blackbirds. Beautiful fliers, their plumage is iridescent and reflects greens, browns, purples. They are found throughout the state.

migrant birds tell us when spring or fall is coming. A bird's song—whether the thin melody of a white-throated sparrow or the raucous harmony of a flock of Canada geese—is a reminder that nature composed the tune in some long-forgotten time. And the way birds are made—their design, their color—seems to indicate that they were intended to be something special. Many of us think they are.

For Further Reading

- Field Guides: *Birds of North America*, by C. S. Robbins, B. Bruun, and H. S. Zim (Golden Press, New York City); *A Field Guide to the Birds*, by R. T. Peterson (Houghton Mifflin Co., Boston); *Audubon Bird Guide: Eastern Land Birds and Audubon Water Bird Guide: Water, Game, and Large Land Birds*, by R. H. Pough (Doubleday and Co., New York City).
- Birds of Pennsylvania*, by Merrill Wood (Pennsylvania State University, University Park, Pa.).
- The Habitat Guide to Birding*, by Thomas P. McElroy, Jr. (Alfred A. Knopf, New York City).
- A Field List of Birds of the Delaware Valley Region* (Delaware Valley Ornithological Club, Academy of Natural Sciences, Philadelphia).
- Birds of the Pocono Mountains* (Delaware Valley Ornithological Club, Academy of Natural Sciences, Philadelphia).
- A Field List of Birds of the Pittsburgh Region* (Carnegie Museum, Pittsburgh).
- Birds of Western Pennsylvania*, by W. E. Clyde Todd (University of Pittsburgh Press).
- Pennsylvania Birdlife* (Pennsylvania Game Commission, Harrisburg).

Quick Cooking for Camp

by Dan K. Leibensperger



"HON, THAT SURE SMELLS good." And, for reasons no one quite understands, food also tastes better than usual when you're in hunting camp or at a family reunion.

NOT LONG AGO Sam Levinson wrote a heart-rending piece about the rigors of dieting, in which he referred to himself as one of the "flour people."

"What is better with a baked potato than a piece of bread?" he asked plaintively.

There are many "flour people" in Pennsylvania, especially the Pennsylvania Dutch. They are great ones for adding dumplings to stew, brown flour and butter "rivels" to soups, and sauces rich in calories to anything else they fancy. They are addicted to feather-light bread, flaky pastry and five-layer coconut cake. They look with disfavor at any cookie smaller than four inches across.

You can forget the cream cheese and olive on diet bread. A proper Pennsylvania Dutch sandwich is two thick

slices of homemade bread with several thick slices of home-baked ham and a hunk of cheese.

When this kind of appetite goes to camp you have to have the right kind of food with you because these stomachs have probably been in training for the family reunion.

At the family reunion the covered dish supper goes plural. Everyone brings covered dishes, the usual picnic staples of potato salad, baked beans and relishes, plus the specialty desserts of the "aunts and cousins" that took prizes at the fairs.

More practice sessions are held in smaller clan gatherings like birthday parties and holidays. On occasions when the call comes to gather around the groaning board, it is hard to find the tablecloth. Only as the womenfolk clear the table for dessert does someone

notice Aunt Jenny's prize damask cloth ironed for two hours in honor of the occasion.

On camping trips we leave the frills behind. No one wants to spend all the time in the kitchen getting ready and a lot of time cleaning up, but we still like to eat hearty.

Here are three standard recipes that make the trip to camp.

Corn Pie

- 1 can corn or equivalent of leftover ears of corn
- 1 can potatoes
- 1 cup chopped onions
- 3 hard boiled eggs, sliced
- Salt and pepper
- 1 to 1½ cups milk and 2 tbs. butter.

Place in layers in casserole in order named. Pour in milk so you can see it through the top layer. Place a crust on top, either a mix or a frozen one thawed and

pricked with a fork and inverted over the casserole. Bake ½ hour in 350° oven or until brown.

Shovel Steak

Melt ½ cup butter in a covered frying pan. Place steak in pan and sear on both sides. Pour in one can beer and cook 3 hours. Add more liquid if necessary. In a stainless steel or heavy aluminum pan begin at medium heat and reduce to simmering.

Sauerkraut Relish

- 1 can or bag sauerkraut
 - 1 cup chopped celery
 - 1 cup chopped onions
 - ½ cup green peppers
 - 1 cup sugar
- Mix well and let stand overnight in the refrigerator.

Watch Them Bush-Crickets!

Crickets and bush-crickets are easily distinguished from grasshoppers by their long, thread-like antennae.

Available Publications

The following publications are available from the Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. Prices quoted include taxes, handling and postage.

GONE FOR THE DAY, by Ned Smith. All of the outstanding columns and artwork which appeared under this title in **GAME NEWS** during a four-year period. Delightful reading for everyone. 216 pp., \$2.50.

THE WHITE-TAILED DEER IN PENNSYLVANIA, by Stanley E. Forbes. Detailed information on all phases of the whitetail's life. 40 pp., 50 cents.

BIRD AND MAMMAL CHARTS, by Ned Smith. Set 1 (20'' x 30'') \$2.00. Winter birds, marsh and water birds, waterfowl, birds of prey. Set 2 (20'' x 30'') \$2.00. Mammals of farm and woodlot, mammals of the mountains, birds of the forest, birds of field and garden. Set 3 (11'' x 14'') \$2.25. All eight charts listed in Set 1 and Set 2. Individual charts not sold in either size.

New Study Shows Gun Law Failures

By NEAL KNOX
Editor, RIFLE Magazine

A CAREFUL READING of the literature of gun-control advocates shows a glaring deficiency: an overwhelming lack of evidence that what they propose has succeeded in reducing crime in any of the states or localities in which it has been tried. And every type of "gun control" law proposed in Congress *has* been tried—everything from requiring waiting periods, to licensing dealers, to licensing owners, to registering individual firearms, to prohibiting manufacture of certain guns, to an outright prohibition (for most New York City residents) upon the private ownership of handguns. There are an estimated 20,000 local, state and federal firearms laws of every sort and description now on the books. If gun laws worked—that is, if they did reduce crimes of violence—there should be a correlation between a certain level of restriction and a certain amount of crime control, as reflected by differences in crime rates in localities with and without such laws. But if the advocates of restrictive gun laws have sought—or found—such a correlation, they have been uncharacteristically quiet about it.

A very few studies have been conducted, but even fewer address the basic question: Do gun laws reduce crime? A recent study which does is "Handguns, Gun Control Laws and Firearm Violence," by Douglas R. Murray of the University of Wisconsin Department of Sociology, published in the October 1975 issue of *Social Problems* [1]. Using standard statistical methods, and comparing the various state firearms laws to crime rates, while considering socio-economic conditions, Murray found that "gun control laws have no significant effect on rates of violence beyond what can be attributed to background social conditions." Secondly, he found that such laws do not effectively limit access to guns by the violence-prone; and, finally, accessibility to handguns "seems to have no effect on rates of violent crime and firearms accidents, another

reason why gun control laws are ineffective."

Because this study is the most thorough yet conducted on the basic assumptions on which gun laws are based, and because neither the author nor the publication can be dismissed as "tools of the gun lobby," the findings should be carefully studied by anyone concerned with firearms legislation.

To put this important study into perspective, it should be emphasized just how little scientific research has been conducted on the question of the effectiveness of gun laws. The general public, conditioned by press and politicians, assumes that such studies have been conducted, and show that gun laws do effectively control crime. But only one sophisticated study has claimed that gun laws reduce violence—and that study, by Geisel, et al, an economist at Carnegie-Mellon University (1969), contended that legislation such as the then-recently enacted New Jersey owner licensing law would "save between 21 and 32 lives per million population per year" [2]. Geisel, et al, tried 30 different mathematical factors for gun laws and social variables before finding a combination that appeared to fit the facts, causing Murray to point out that "such random testing could produce weights that are the result of chance correlation . . . and consequently are probably useful for only this one data set, severely limiting the generalizability of their conclusions." Evidence that Murray is correct in his criticism is that in the half-dozen years after the New Jersey law was enacted, during which the social factors would have changed relatively little, the New Jersey murder rate doubled, surpassing that of neighboring states without the claimed benefits of a restrictive gun law [3].

A much-publicized, but less-scientific study was the *Staff Report* to the President's "Violence Commission" by Newton and Zimring (1970) [4], which con-

cluded that *crimes committed with guns* would be reduced if fewer people owned guns—which is akin to saying that there would be fewer truck accidents if trucks were prohibited from the highways. In attempting to support their conclusions, Newton and Zimring relied heavily upon the *percentage of crimes committed with firearms* in both U.S. and foreign cities, all the while cautioning that cultural differences made such comparisons chancy. In their comparisons of the *percentage of crimes with guns* in U.S. cities, they largely ignored the total crime rates, as if murder or robbery with a gun were more heinous than the same crime committed with some other weapon.

However, even their limited finding that reducing *handgun* ownership among the general public would reduce *handgun* crimes has since been questioned by one of the authors of *Staff Report*, Franklin Zimring of the University of Chicago. In a 1975 study of the Gun Control Act of 1968 (which he found to be ineffective in curbing the interstate flow of firearms that it prohibited), Zimring stated that his earlier hypothesis might have to be modified, in light of increasing firearms crime in areas with lower-than-average gun ownership [5]. Zimring wrote that levels of handgun ownership would have to become much lower before they could be kept out of the hands of the "violence-prone subculture," thereby reducing *handgun* violence, but he did not attempt to prove that hypothesis; Murray did, and found it unprovable. However, by recognizing the existence of a lawless element—one which disobeys gun laws as well as laws against robbery and murder—Zimring seems to be approaching the heart of the "gun crime problem," which is actually a social problem; enactment of gun laws has absolutely no effect upon social conditions.

The assumption that gun laws work is usually based upon casual comparisons of the crime rates, or the percentage of crimes committed with guns, in selected areas with and without restrictive gun laws, a practice followed by the late Senator Tom Dodd [6], former Attorney General Ramsey Clark [7], and even the President's Commission on Law Enforcement and the Administration of Justice [8]. Evidence of the fallacy of such superficial comparisons is that of the five "good gun law" cities cited in 1965 by Dodd (Chicago, Los Angeles, Detroit, Philadelphia and New York City) all have experienced far greater increases in murder rate than his "bad example" cities (Dallas and Phoenix)

[6, 9]. According to 1974 FBI statistics, three of his "good examples" now have murder rates higher than that of Dallas, all five have higher (as much as double) murder rates than Phoenix. Also, the robbery rates in the five cities are presently from 1½ to almost four times the average rate of his two "bad examples" cities.

Similarly, figures showing the "percentage of crimes committed with firearms" are meaningless, unless the *number* of crimes, and the social factors contributing to crime, are also considered. Senator Dodd made much of an FBI report of the *percentage of murders committed with guns* in 1962–65; the highest *percentage* was Vermont, with 100 percent, but the state had only seven murders in four years [6]. During the study period "only" 32 percent of New York State's 2800 reported murders—in four years—were with guns [10]. In 1974, despite its repressive laws, 49.9 percent of New York State's 1851 reported murders—in one year—were with firearms [9, 11].

The point is, neither selected "percentages" nor selected crime rates are meaningful, for selection of other "loose gun law" cities would have "proved" opposite results.

Krug. . . found that crime rates were not higher in areas of high gun ownership

While the gun laws in Dodd's "good example" cities have been made more restrictive, no significant changes have occurred in the gun laws of Dallas and Phoenix; if gun laws were the controlling factor in violent crime rates, the comparative crime rates, and percentages of crimes with guns, should have remained relatively constant. Since they did not, other factors unrelated to gun laws are obviously dominant in determining an area's crime rates.

That was the finding of the first detailed study of the effectiveness of gun laws, conducted in 1960 by the Wisconsin Legislative Reference Library [12]. That study showed no demonstrable correlation between firearms laws and crime rates, particularly the murder rates, but it did find an apparent relationship between crime and socio-economic factors such as income and educational levels. In 1967, Alan S. Krug, an economist at Pennsylvania State University, updated that study

using 1965 FBI statistics and more sophisticated statistical methods; he found that "there is no statistically significant difference in crime rates between states that have firearms licensing laws and those that do not" [13].

The following year, Krug studied the relationship between firearms ownership, as determined by the sale of hunting licenses, to state violent crime rates for 1966; he found that crime rates were not higher in areas of high gun ownership but, on the contrary, crime rates tended to be lower. He noted that firearms ownership by the law-abiding could be a factor in restricting criminal acts, but cautioned that his findings did not prove such a relationship [14]. In another study that year, he cited the larger numbers of firearms available, the small percentage of crimes committed with guns and questioned whether any form of firearm regulation could have any significant effect upon the crime rates. He called for advocates of such laws to present "proof in the way of scientific evidence" that their proposals would have the desired effect. "Benefits, if any, to be gained from firearms legislation," he wrote, "should be judged both in terms of the financial cost to the community and in terms of subsequent loss of personal freedom and individual civil rights" [15].

Zimring. . . . primarily asked questions, rather than providing answers

Krug's studies were subsequently criticized by Zimring in an article entitled "Games with Guns and Statistics," primarily on the basis of Krug's methodology, such as the use of hunting license sales as an unproven indicator of general levels of gun ownership; however, Zimring did not perform any statistical analyses, and primarily asked questions, rather than providing answers [16]. Significantly, he called for more research to be done in this area, but when he subsequently had an opportunity to perform such research in the Violence Commission Staff Report, mentioned above, his conclusions were not supported by the facts presented—indeed, as noted, in his 1975 study Zimring appears to question the basic hypothesis of Staff Report.

Douglas Murray's study, like any other statistical analysis, does not constitute light reading. But those who are not familiar with the statistical methods involved

will have no difficulty in understanding his conclusions. After surveying the sparse amount of research that has been done, almost all of which we have mentioned here in somewhat more detail (except for his statistical "shop talk" critique of the Geisel, et al, study), Murray comments: "For research to be of any value to the interested observer, it must avoid the more blatant errors which have thus far characterized empirical analysis in this field."

Prior research has shown a close relationship between crime and socio-economic factors

Since prior research has shown a close relationship between crime and socio-economic factors, Murray obtained census and other data for the 50 states on such variables as population, population density, percent of Negroes, percent unemployed, percent below the poverty line, percent of migrants, amount of education, and similar information. For suicide and homicide figures, Murray used the latest, 1969, Vital Statistics, and for robbery and assault data he used 1969 FBI figures. State gun laws were broken into seven categories, as presented in a 1966 book by Carl Bakal: Purchase Permit, Waiting Period, Report to Police, Retail License, Minimum Age, Permit to Carry Openly, and Permit to Carry Concealed.

With these data, Murray developed a "multiple regression statistical framework," a standard method of mathematical analysis, "in an attempt to find those social factors which seem to explain the most variance in the rates of reported violence associated with firearms." This was a marked departure from earlier studies, for here he attempted to statistically estimate the effects of crime-related social factors, without regard to firearms laws (whereas Geisel, et al, had attempted to mathematically weigh all factors, including firearms laws, simultaneously). By this method, Murray found that he could estimate violent crime rates with 66 percent to 81 percent accuracy according to the mathematical variables for social factors alone.

Had Murray also entered data for the certainty and severity of punishment in each of the states, as explored in other studies [17], we suspect that his estimates of violence rates would have achieved an even higher level of accuracy.

With the incidence of violence largely determinable solely with his mathematical factors for social conditions, Murray asked the question: "If the primary causes of crime and accidents lie in the harsh social conditions in which people live, what additional effect on the incidence of firearm-associated violence is there that may be attributed to the severity of restrictions imposed by differential state legislation on the purchase of handguns?"

He wrote: "It is implicit in the arguments of the proponents of such legislation that such laws should play a significant part in lessening crime." To test this hypothesis, he entered each of the seven types of gun controls into his program to determine if there were a relationship with the states' rates of suicide, homicide, robbery and assault, other than that already "predictable" according to social factors. "Out of the resulting 28 equations, not one law had a significant effect on a single measure of violence." He then entered into the regression equation all seven laws simultaneously, to determine if there were a cumulative effect, but again was unable to find a statistical significance. "On the basis of these data," Murray wrote, "the conclusion is, inevitably, that gun control laws have no individual or collective effect in reducing the rates of violent crime."

Murray noted, however, that these findings could be criticized on grounds that states enforce their laws erratically; further, that the data might be distorted due to criminals obtaining firearms by going into a neighboring jurisdiction with lesser controls. But Murray may not have been aware that by the time of the study, federal law prohibited all out-of-state transfers of handguns, even intra-family gifts, except through licensed dealers [18]. While it can be shown, as per Zimring and Bureau of Alcohol, Tobacco and Firearms studies [5, 19], that the 1968 Gun Control Act has not succeeded in stopping illegal, interstate transfers, such a finding reinforces Murray's conclusions that gun control laws are ineffective. On the face of it, a gun law would not be expected to be effective, for a criminal is by definition someone who breaks the law; it is illogical to assume that a person who commits robbery or murder would be deterred by a comparatively minor firearms law. And contrary to the frequent assertions that most murderers are normally law-abiding, a recent confidential Rand Institute study for the New York City Police Department, according to the *N.Y. Times*, estimated "at least 80 percent of the victims or killers . . . had criminal backgrounds" [20].

As a second part of his study, Murray attempted to determine if gun control laws limited access to handguns, using 1968 Harris and 1972 Gallup polls on firearms ownership. Using the same method used to predict violent acts, Murray found: "Gun control laws do not have any apparent effect on a large enough proportion of the population or on those critical elements of the population who are associated with violent acts to effectively limit access to handguns by those who want them" (our italics.)

Had Murray examined this question on a local, rather than a regional basis, we doubt that he would have obtained quite the same results. There are fewer than 5000 New York City licenses to possess handguns for target shooting [21], and less than 600 licenses to carry by persons not requiring handguns for employment, such as bank guards [22]; at least some of these could be obtained only by paying bribes to police, judging by information received during the corruption probe of the Knapp Commission in 1973 [23]. Further, there are frequent complaints by New York City pistol competition groups that members are subjected to undue and unwarranted red tape and harassment by police in attempting to obtain or renew their licenses [24].

Police estimate there are about one million illegal handguns in New York City

On the other hand, there is no shortage of handguns among New York City's lawless element; police estimate that there are about one million illegal handguns in New York City [25]. Although most of New York City's law-abiding citizens are denied handgun ownership, the New York City handgun murder rate—that is, the incidence of murder committed with handguns—can be calculated at about 9.4 per 100,000 population while the national average is 5.3 [9, 11, 25]. Similarly, while the national average rate of robberies committed with firearms is 93.3 per 100,000, the metropolitan New York City handgun robbery rate is 270.9 [9, 11]. Murray would be quick to point out, correctly, that these raw data do not consider social factors, but they do indicate that New York's laws have not denied criminals access to handguns.

Entering the third stage of his study, Murray writes: "At this stage of the

analysis, the data have indicated that gun laws have no effect on either handgun ownership or on crime rates, suggesting that this type of legislation is totally irrelevant to its stated purpose. Therefore, a return to the basic theory of firearms control legislation seems in order. As stated, the primary reason for the existence of these laws is to control access to guns so that guns are less likely to be used in acts of violence. Thus far, the relationship between gun laws and crime rates is nonexistent. The next and most obvious question now concerns the relationship between access to handguns and acts of violence involving handguns."

"... the report expressed doubt about the effectiveness of tougher gun control laws

Using the data from his first two analyses, social factors influencing crime and access to handguns according to the surveys, Murray found: "On the basis of these data, it seems quite unlikely that the relative availability of handguns plays a significant part in explaining why some states have higher rates of violence associated with firearms than others." He notes that this finding is supported by Dr. Marvin Wolfgang's study of homicide in Philadelphia, *Patterns in Criminal Homicide*, which is a standard text in criminology. Although Wolfgang supports "the strictest of gun legislation," in his study he found: "Several students of homicide have tried to show that the high number of, or easy access to, firearms in this country is causally related to our relatively high homicide rate. Such a conclusion cannot be drawn from the Philadelphia data. . . (It) does not necessarily follow that the relatively high homicide rate in this country is merely due to greater accessibility of such weapons."

This finding is further supported by Romey P. Narlock, Crime Studies Analyst for the California Department of Justice, who found on the basis of his research "that the mere availability of weapons . . . bears no major relationship to the frequency with which this act is completed" [13]. In addition, the recent Rand Institute study of New York City homicide found a sharp increase in premeditated murders, both those committed in connection with another crime—felony murders—and in cases where the murderer and victim were acquainted, much of it due to disputes over

narcotics. The report stated that "the major part of the citywide rise in homicides since 1968 seems to be in deliberate killings." Further, according to the *Times*, "the report expressed doubt about the effectiveness of tougher gun control laws. . . 'The change in the circumstances of homicides has probably reduced (in New York City at least) the fraction of homicides preventable by gun control legislation' "[20].

In his conclusion, Murray notes that his "findings are a direct contradiction of the widely held opinion concerning the relationship of firearms, gun control laws, and crime rates. . . Even relatively low level legislation, as registration, would cost several hundred million dollars, at a minimum" while confiscation and purchase could "mean an investment of possibly \$10 billion!" Since the legislation would be resisted by both criminals and "those with strong moral objections to the laws" even a one percent non-compliance rate "would still mean 2,000,000 guns (especially pistols) unregistered and hundreds of thousands of normally law-abiding individuals suddenly labelled as criminals. . . The basic question is, then, are we willing to make sociological and economic investments of such a tremendous nature in a social experiment for which there is no empirical support?"

Objective research. . . is likely to be embarrassing to important people

Although Murray calls for more research into this question, we are frankly doubtful that it will be forthcoming, for the government agencies responsible for research into the effectiveness of gun laws—primarily Justice Department and Treasury—have been unwilling to probe this politically sensitive area despite repeated requests by myself and others. Objective research, as indicated by Murray's findings, is likely to be embarrassing to important people. For instance, just two days after Attorney General Levi called for handgun prohibition in high-crime areas, Justice Department wrote us that it had conducted no research into the question of the efficacy of gun laws, nor did it possess any such studies [26, 27]. On what grounds, then, did the Attorney General make his recommendations?

As a result of widely held assumptions, the press and many politicians from across

the political spectrum are asking the nation to buy a "pig in a poke." The advocates of repressive firearms laws have yet to provide any persuasive evidence that their proposals will reduce levels of violence, and they have side-stepped questions concerning the tremendous economic and social costs of their grand experiment—which, according to the evidence of past results provided by Krug and Murray, is likely to be even less successful than the noble experiment to prohibit alcoholic beverages.

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[16] Franklin E. Zimring, "Games with Guns and Statistics." *Wisconsin Law Review*, No. 4, 1968: 1113-1126.

[17] Examples cited by James Q. Wilson in *Thinking About Crime*. Basic Books, New York, 1975.

[18] Section 922 (a), Chapter 44, Title 18, U.S. Code, commonly known as the Gun Control Act of 1968: "It shall be unlawful—(3) for any person, other than a (licensee) to transport into or receive in the State where he resides . . . any firearm purchased or otherwise obtained by such person outside that State . . . ; (5) to transfer, sell, trade, give, transport, or deliver any firearm to any person . . . who the transferor knows or has reasonable cause to believe resides in any State other than that in which the transferor resides. . . ."

[19] U.S. Department of the Treasury, Bureau of Alcohol, Tobacco and Firearms, "Project Identification: A Study of Handguns Used In Crime." 1976.

[20] Selwyn Raab, "Deliberate Slayings On Increase Here," *New York Times*, Feb. 27, 1976. Pp. 1, 14.

[21] Personal communication from Howard A. Metzendorf, Deputy Chief, New York City Police Department, May 20, 1975. (Licensed to carry, including persons requiring pistols for employment and retired police officers, 23,114; licensed to target shoot, for which pistols may be carried only to or from an authorized range unloaded and in a locked container, 4,718; licensed for premises only, 197; as of May 1, 1975.)

[22] Personal communication from Wilfred N. Horne, Deputy Commissioner, New York City Police Department, April 16, 1971: "At the present time we have 24,354 pistol licenses in force, of which 564 are issued to persons who do not require them as a condition of employment. No homicides were committed by persons using legally licensed firearms."

[23] *Knapp Commission Report on Police Corruption*. New York, George Braziller, 1973. Pp. 188-189.

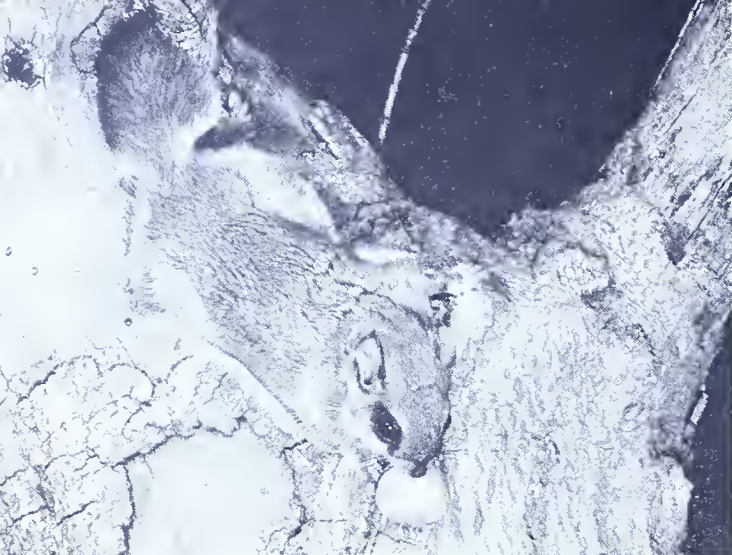
[24] Form letter from the officers to members of the West Side Rifle & Pistol Range, Inc., New York, N.Y.: "(T)he longstanding effort of the City of New York to limit the rights of sportsmen and shooters . . ." 1972.

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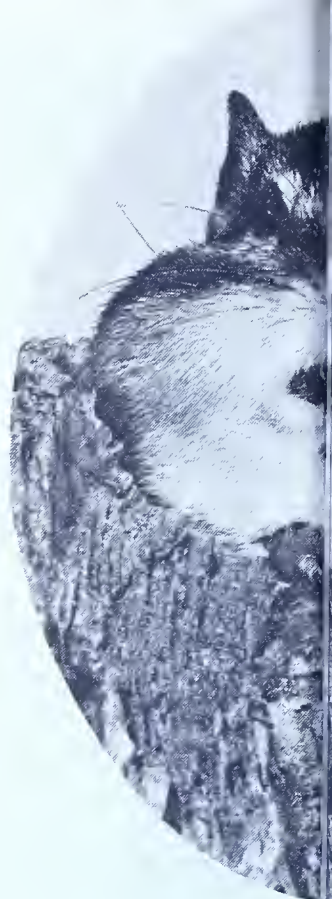
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FLYING squirrels (above) actually glide rather than fly, and are active only at night. Talkative little red squirrels (below) often perch in conifers, munching on pine nuts or juniper berries.



FOX squirrels, larger than their gray cousins, favor more open woodland.



Pennsylvania

MORE THAN a half-dozen species of squirrels live in Pennsylvania. They show a wide range of size, food, and physical abilities, from fair to superb. Included are "red squirrels," but also chipmunks and thirteen-lined ground squirrels. Woodchucks (who prefer green plants) are also in the family; they feed primarily on nuts and insects.

THIRTEEN-lined ground squirrel: introduced species is limited to non-forest areas.





GRAY squirrels, perhaps the most common squirrels in the state, prefer hardwoods like oak, beech and hickory both for food and den sites. Perky chipmunks (left) amuse us as they scamper here and there, cheek pouches bulging with nuts and seeds.

Nutcrackers

s of the squirrel family inhabit a variety in preference for habitat, are climbers, with skill ranging from those we commonly call "squirrel-chucks". The latter, along with excellent excavators. Except for (nuts and vegetables), the squirrel eats seeds. Most also eat berries and

Karl Maslowski

WOODCHUCKS, largest members of the squirrel family in Pennsylvania, are the only large rodents with white incisors. Like their squirrel relatives, they often sit upright to eat or check surroundings.

rely seen above ground. This in-
counties.





FIELD NOTES



Dedication

Telephone call to Northwest Division Office on April 22, 1976: Young man on phone: "When is the first day of spring gobbler season?" CIA Servey: "May first." Young man: "Are you sure it's not May 8?" Servey: "Definitely." Young man: "Wow, that's great! I'm getting married on May 8 and I thought I'd miss the opening day!"—Conservation Information Assistant F. H. Servey, Franklin.



No Hurry

CENTRE COUNTY—During spring gobbler season, while on foot patrol on Farm Game Project 100 in Ferguson Township, I found a box turtle ambling along. Its back bore a tag with the name and address of George S. Homan of State College. I contacted Homan, whose records indicated he'd marked and released the turtle in 1928. I guess there's a lot to be said about taking it slow and easy. The old fellow seemed to be in good health and had traveled only 6 miles in 48 years.—District Game Protector J. L. Wiker, Pennsylvania Furnace.

Feathered Farewell

NORTHUMBERLAND COUNTY—On May 22 I saw my first covey of grouse chicks in many, many years. I surprised them on a backwoods road and stepped from the car to get a better look. The hen charged up to within six feet of me. I froze, wondering why she came so close. Looking down, I saw one of her chicks within three feet of me. As the chick scampered away, she too retreated. There were eight or ten chicks about a week old. What a pleasant memory as I retire from the Game Commission after 40 years!—District Game Protector C. E. Laubach, Elysburg.

Keep On Truckin'!

CAMERON COUNTY—What with trails, fields and forests being ripped up by some thoughtless off-road vehicle drivers, and countless birds and animals being wiped out by automobile drivers, one begins to wonder if any drivers care about our wildlife and its habitat. But every once in a while, a little ray of hope manages to peep through the clouds of doom. In May, Deputy Jean Smith and I were patrolling the upper end of Wycoff Run Road. The only traffic consisted of two huge log trucks traveling at a fair clip. Suddenly the first rig did a quick zigzag on the road. The second truck followed suit. Slowing down for the big pothole we expected, we were amazed to see a woodcock leading her four chicks across the road. Hats off to a couple of those "big, tough-guy" truckers who took advantage of light traffic to yield the right-of-way to some downy little ping-pong-balls-with-legs.—District Game Protector N. L. Erickson, Emporium.

Precocious

Sixth grade students from Brockway recently visited the Training School for the annual Conservation Day. The 160 students were split up into groups and rotated to five stations manned by trainees. During my talk on trapping and fur identification, I passed around a bottle of fox lure for them to smell. Sniffing the vile stuff, one youngster asked if I used it for after shave lotion. I replied that I'd used it that morning. Another young fellow piped up with, "No, you use it to catch a foxy lady."—Trainee W. R. Dilling.

Oops—Wrong Bird!

The lessons learned here at the Training School are often of immediate use. While on Land Management field assignment in the Northwest Division, Trainee Lenny Hribar and I went to a restaurant for supper. In front of us were Bicentennial placemats featuring an adult bald eagle clasping arrows and a freedom banner. Lenny took one look and said, "This picture is wrong. The adult bald eagle has a white tail, not a brown one." Chalk one up for Mr. Croft's bird identification course!—Trainee R. G. MacWilliams.

Now It's Air-Kills

CUMBERLAND COUNTY—Recently Deputy Charlie Logry was called out to investigate an unusual automobile vs. wildlife accident. Two Canada geese decided to set down on busy Route 11 one foggy night. In the process of landing, one goose flew into the windshield of an oncoming vehicle. The windshield was completely shattered, sending the driver to the hospital and killing the goose. The second goose sustained minor injuries and proceeded on its way. Someone suggested a "Low Flying Wildcraft" sign might be in order.—District Game Protector J. P. Filkosky, Mechanicsburg.

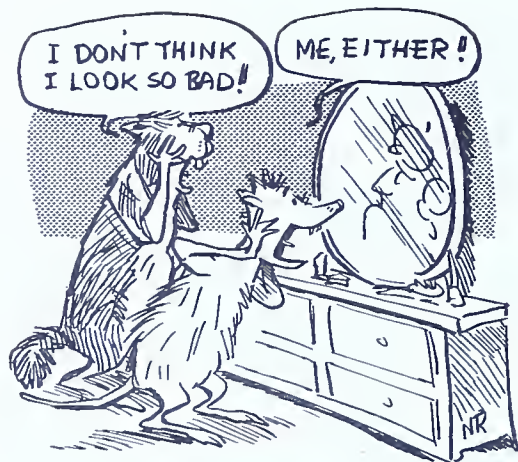


Bushytailed Bubblegummer

HUNTINGDON COUNTY—Larry Spielman of Chambersburg, a member of the Green Acres Hunting Camp located in the vicinity of Broadtop, reported to me that a gray squirrel stole his bubble gum. He'd settled down comfortably to call turkeys, and had removed his bubble gum from his mouth and placed it on a log in front of him, within arm's reach. Shortly thereafter, a squirrel came along, jumped up onto the log, and started edging closer and closer to the gum, nervously flicking its tail. Finally, it grabbed the wad, ran off about fifty feet, hopped up onto a stump and started chewing!—District Game Protector D. J. Adams, Saltillo.

Every Litter Bit Hurts

JUNIATA COUNTY—Roadside litter is not only ugly, but potentially dangerous. Mike Richardson of McCoysville was traveling home on Route 850 when he spotted a woodchuck crossing the road. It was traveling blind, its head completely imprisoned in a soup can. Mike removed the headgear, and the chuck went on its way with only a slightly bloody nose, rather than facing the starvation or suffocation that would otherwise have been its fate.—District Game Protector R. P. Shaffer, Mifflintown.



Beauty and the Beast

SCHUYLKILL COUNTY—Just before I started to type my monthly reports, I received a call from a woman who wanted me to remove a groundhog from her yard because it was “fat and ugly.” Last month a man called and wanted an opossum removed from his yard because his wife thought it was “horrible looking.”—District Game Protector S. L. Opet, Tamaqua.

An Easy Mark

MONTGOMERY COUNTY—The last month, several raccoons have come to our door and wanted in. Perhaps they were someone’s abandoned “pets,” but one had a large patch of skin torn from its back, which we doctored. It just may be that the game protector is becoming known as a pushover among the wild kingdom.—District Game Protector B. J. Schmader, Collegeville.

Lousy Trade

While building an island of hay at Shenango, we came across a mallard nest. Five of us worked around the nest for several days to preserve it, only to have some sorry joker remove the eggs and replace them with his discarded bottle.—Land Manager D. W. Gross, Chapmanville.

Golden Years

LYCOMING COUNTY—Deputy Don Smith was checking deer hunters in Cabbage Hollow this past season when he had the pleasure of meeting Mrs. Pearl Bartlow, 83, of Muncy. She was hunting with her 12-year-old great-granddaughter, Barb Booth of Williamsport. She told Don that she has hunted every year since 1913, except 1916, when there was a flu epidemic. She was hunting with a single shot 12-gauge shotgun and said she has taken two deer with it. Mrs. Bartlow got her last deer when she was 79 years old.—District Game Protector W. L. Hutson, Williamsport.

New Turkey Food

POTTER COUNTY—A hen turkey was killed by a vehicle near Germania in late April. Examining it, Deputy Whitney and I found an egg just about to be laid. Opening the gizzard revealed cherry seeds, various grasses and leaves, and one mysterious white object which proved to be . . . a cigarette filter!—District Game Protector R. G. Clouser, Galeton.

C'mon, Good Buddy

PERRY COUNTY—Much publicity has been given relative to people using CB radio units to evade law enforcement officers. Recently, however, CB'ers have assisted me considerably by contacting me about highway killed deer and various Game Law violations. Usually this is done in a roundabout way, since I have no CB radio. They contact someone who calls me by telephone. Recently, thanks to the CB radio system and two very helpful men, we were able to apprehend some people shortly after they had shot and killed a doe. Thanks, CB'ers—hang in there!—District Game Protector L. L. Everett, Newport.

The Real McCoy

MONTOUR COUNTY—I was interested to notice the use of natural furs on some of the official uniforms at the 1976 Winter Olympic Games in Innsbruck. The beautiful fur hats worn by the Russian athletes are a good example. It sure makes sense to use this renewable natural resource for warm clothes. Man has been doing this ever since he began living in cold climates. One questions the use of petroleum, a non-renewable natural resource, in making synthetic "furs," when Mother Nature provides us with the real thing year after year.—District Game Protector R. W. Donahoe, Danville.



Yummy!

Recently I learned something that should help me through my career as a Game Protector. In my neighborhood, the garbage cans have been raided several nights in a row by a raccoon. My wife insisted that I do something. Looking back over my notes, I discovered that raccoons don't like mothballs, so I told my wife to sprinkle them around the garbage cans. To my surprise—and I have witnesses—the raccoon first played with the mothballs and then took a bite from one.—Trainee J. G. Sickenberger.

AUGUST, 1976



Pied Piper

FULTON COUNTY—I ran into a chap who had just made an effort to locate a few gobblers and hone up his turkey calling. His first call brought in a big doe. On his second call a red fox peeped over a log. The final insult came on the third call, when a skunk ambled into his hiding spot.—District Game Protector C. E. Jarrett, McConnellsburg.

Better than Pekoe

Early one Sunday morning, I was busy taking pictures of some waterfowl when a woman stopped her car on a nearby road to ask what I was photographing. When I replied, "Blue-winged teal," she looked puzzled and then asked, "Is that good to drink?"—Trainee T. C. Flanigan.

Just Don't Listen

WARREN COUNTY—Despite all the publicity each year, some of our efforts in appealing to people to leave young animals in the wild must be wasted. During May, I picked up three deer held in captivity. I wish we could convince people that the lives of those animals are, for the most part, also wasted.—District Game Protector D. C. Snyder, Warren.



By Ted Godshall

Hunting Seasons and Bag Limits Established



LOOKS LIKE THE hunting was good for these two, as Adams Co. DGP Gary Becker checks the bag. Pheasants are favorite game of many Pennsylvania hunters. This fall, pheasant season begins on October 30.

ESTABLISHMENT of a longer muzzleloader deer season and an increase in the areas where muzzleloader deer hunting is permitted, plus shorter trapping seasons and a shorter raccoon hunting season, highlight the 1976-77 hunting and trapping seasons and bag limits set in June by the Pennsylvania Game Commission.

This year's regular four-week archery deer season will open on Saturday, October 2. The early small game season will start on Saturday, October 16, and the four-week general small game season is scheduled to begin on Saturday, October 30.

A one-day bear season will be held on Monday, November 22. The regular two-week antlered deer season will open on Monday, November 29; a two-day antlerless deer season will be held on Monday and Tuesday, December 13 and 14; and the winter small game and archery and muzzleloader deer seasons will begin on December 27 and close on January 15.

Liberalizations in deer hunting seasons and opportunities were brought about by the presence of the large herd of whitetails in the state this year. Muzzleloader deer hunting began in Pennsylvania two years ago on a regular basis when a three-day season was set up.

Last year the muzzleloader season was expanded to five days in length. This year the season for flintlocks will coincide with the three-week winter archery and small game seasons.

Muzzleloader deer hunters were confined to 37 state game lands during their season last year. This year they will be able to hunt on the same areas plus the addition of State Game Lands 127 and 221 in Monroe County and Hoover's Island and Clemson Island in the Susquehanna River between Selinsgrove and Clarks Ferry.

There will be 440,350 antlerless deer licenses available in Pennsylvania this year. Only in 1968, when 482,550 were authorized, and in 1967, when 445,400 were approved, have more antlerless licenses been made available to hunters.

Last year the Game Commission authorized the issuance of 421,300 antler-

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less licenses. The increase in the number of antlerless licenses this year is designed to cut into whitetail populations which have grown too large for available overwintering food supplies in some counties and are in unhealthy competition for usable land areas in other counties.

Increased prices for most furs have led to additional trapping pressure in recent years, and the shorter trapping seasons are set up to provide additional controls over harvests.

The trapping season on skunks, opossums, raccoons, foxes and weasels will open on November 7 and conclude on January 31. The mink and muskrat trapping season will open on Thanksgiving Day, November 25, and end on January 2.

The raccoon hunting season will open this year on November 1 and will close on January 31.

Basically, other seasons and bag limits are pretty much in line with those of the past year.



Expansion of Prime Turkey Range Continues

The range supporting self-sustaining populations of turkeys continues to expand as a result of the trapping and transferring of wild birds. During the 1976 winter, Game Commission personnel trapped 81 wild turkeys in Franklin, McKean, Potter, Clarion and Forest Counties. These birds were then released in Crawford, Venango, Franklin and Cumberland Counties. Birds trapped in the wild generally include about two or three females to every male.

During the preceding three winters, Game Commission personnel trapped and transferred 477 wild turkeys. In 1973, 80 birds were caught and liberated in the northwestern and southcentral parts of the state. In 1974 139 turkeys were trapped; they were also relocated in the northwestern and southcentral areas. In 1975 a record 258 wild turkeys were trapped. These birds were released in southwestern and northwestern Pennsylvania.

Weather conditions are largely responsible for success in trapping wild turkey stock. A snow cover is helpful, but deep, dry snow lowers the success rate as much as does a lack of snow. There were good trapping conditions in the 1974 and 1975 winters, while turkeys were difficult to lure into the nets in both 1973 and 1976.

Wild turkeys trapped by the Game Commission are released in areas where the habitat is likely to support self-sustaining turkey populations. Contrary to rumors, releases of trap-and-transfer birds have always been confined to Pennsylvania.

In Memoriam

Burton A. Benson
1895 - 1975

DGP Huntingdon County.
Retired 1934; 14 years service.

Lindsay M. Griffin
1915 - 1975

Assistant Supervisor of Service; Storekeeper (Harrisburg).
Retired 1975; 33 years service.

Kenneth C. Lick
1914 - 1976

Clerk III, Div. of Land Management (Harrisburg).

15 years service.

Orrie Smith
1890 - 1975

Refuge Keeper; Land Manager; DGP Fulton County.

Retired 1954; 27 years service.

Clarence Wilkinson
1914 - 1975

Game Propagator; Game Farm Superintendent, Southwest Game Farm.
28 years service.

Pennsylvania Seasons and Bag Limits 1976-1977

The Pennsylvania Game Commission, in Harrisburg on June 3, 1976, established the following seasons and bag limits for resident game and furbearers for the 1976-1977 hunting license year which begins September 1.

Open season includes first and last dates listed, Sundays excepted, for game. The opening hour for small game, migratory game birds and other wild birds or animals on October 30 will be 9:00 a.m., D.S.T. Shooting hours for other days and seasons will be from one-half hour before sunrise until sunset except turkey gobblers (spring season) from one-half hour before sunrise until 11:00 a.m., D.S.T., and raccoons which may be hunted any hour except during the firearms deer seasons when the hours are from sunset to sunrise. Seasons and shooting hours for migratory birds will be announced later.

Daily Limit	Field Possession Limit	SMALL GAME	DATES OF OPEN SEASONS	
			First Day	Last Day
6	12	Squirrels, Gray, Black and Fox (combined)	Oct. 16	Nov. 27 AND Dec. 27
2	4	Ruffed Grouse	Oct. 16	Nov. 27 AND Dec. 27
4	8	Rabbits, Cottontail	Oct. 30	Nov. 27 AND Dec. 27
2	4	Ring-necked Pheasants, males only (except in designated area)*	Oct. 30	Nov. 27
4	8	—both sexes in designated area*	Dec. 27	Jan. 15, 1977
Unlimited	Unlimited	Bobwhite Quail	Oct. 30	Nov. 27
Unlimited	Unlimited	Raccoons (Hunting)#	Nov. 1	Jan. 31, 1977
		Woodchucks (groundhogs)	Sep. 1	Nov. 27 AND Jan. 15
1	1	Wild Turkey—Northcentral and Southcentral Areas**	Oct. 30	Nov. 27 (Except Nov. 22)
1	1	—Peripheral Areas	Oct. 30	Nov. 20
2	4	—Spring Gobbler Season (bearded birds only)	Apr. 30	May 21, 1977
		Hares (Snowshoe Rabbits) or Varying Hares	Dec. 31	Jan. 1, 1977 AND Jan. 7
				Jan. 8, 1977
		NON-GAME		
Unlimited	Unlimited	Crows	Jan. 17	Apr. 14, 1977 AND Jul. 2
				Aug. 6, 1977
		BIG GAME		
1	1	Bear, over 1 year old, by individual or by hunting party of two or more	Nov. 22	Nov. 22
		Deer, Archery Season, any deer—Statewide	Oct. 2	Oct. 29 AND Dec. 27
		Deer, Antlered, with 2 or more points to an antler or a spike 3 or more inches long	Nov. 29	Dec. 11
1	1	Deer, Antlered, and Antlerless with required antlerless license, bucksot only in Special Regulations Area listed below***	Nov. 29	Dec. 11
		Deer, Antlerless—Statewide	Dec. 13	Dec. 14
		Bad weather or inadequate harvest extension	Dec. 18	
		—Counties, and parts of, listed below****	Dec. 13	Dec. 18
		Deer, Antlered and Antlerless—with specified muzzleloader on designated State Game Lands*****	Dec. 27	Jan. 15, 1977
		FURBEARERS		
Unlimited	Unlimited	Skunks, Opossums, Raccoons, Foxes, Weasels# (traps)	Nov. 7	Jan. 31, 1977
Unlimited	Unlimited	Minks#	Nov. 25	Jan. 2, 1977
Unlimited	Unlimited	Muskrats (traps only)	Nov. 25	Jan. 2, 1977
3	3	Beavers (traps only)	Feb. 12	Mar. 12, 1977

NO OPEN SEASON—Cub Bears, Elk, Otters, Hungarian Partridges, Sharp-tailed Grouse, Bobcat or Wildcat.
NO CLOSE SEASON—Chukar Partridges, Red Squirrels.

SPECIAL REGULATIONS

#No hunting for any wild bird or wild animal except deer and migratory game birds during the firearms seasons for deer (muzzleloader season excepted). Raccoons may be hunted between sunset and sunrise during the firearms seasons for deer.

**Designated Area for Male and Female Pheasants*—East of Interstate Route 79 from the city of Erie to Interstate Route 80. Thence north of Interstate Route 80 from Interstate Route 79 to the junction of Route 220. Thence north of Route 220 to the junction of Route 118. Thence north of Routes 118 and 415 to junction of Route 309. Thence north and east of Route 309 to the junction of Interstate Route 80. Thence north of Interstate Route 80 to the New Jersey line.

***Wild Turkey Season Oct. 30 to Nov. 27 (except closed Nov. 22)* in the northcentral and southcentral turkey ranges in the counties of Bedford, Blair, Cameron, Centre, Clinton, Elk, Forest, Fulton, Huntingdon, Juniata, McKean, Mifflin, Perry, Potter, Snyder, Sullivan, Tioga, Union, and in that part of Warren County east of Route 69 north of Route 27 and east of Route 27 south of Route 69, that part of Crawford County south of Route 27 and east of Route 8, that part of Venango County east and south of Route 27 from the Warren County line to the Crawford County line, east of Route 8 from the Crawford County line to Franklin, and north of Route 322 between Franklin and the Clarion County line, those parts of Clarion and Jefferson counties north of Route 322, those parts of Clearfield County north of Route 322 between the Jefferson County line and Route 219 and east of Route 219 between Route 322 and the Cambria County line, those parts of Cambria and Somerset counties east of Route 219, that part of Bradford County west of the North Branch of the Susquehanna River, that part of Wyoming County west of the North Branch of the Susquehanna River between the Bradford County line and Route 309 and west of Route 309 between Tunkhannock and the Luzerne County line, that part of Luzerne County west of Route 309 between the Wyoming County line and Dallas, north of Route 415 between Dallas and Route 118, and north of Route 118 between Route 415 and the Columbia County line, that part of Columbia County north of Route 118, that part of Lycoming County north of Route 118 between the Columbia County line and Hughesville, north of Route 220 between Hughesville and Route 147, and west of Route 147 between Route 220 and the Northumberland County line, that part of Northumberland County west of Route 147 north of Interstate Route 80 and north of Interstate Route 80 west of Route 147, and those parts of Cumberland and Franklin counties west of Interstate Route 81.

****Special Regulations Area*—Only buckshot and bow and arrow may be used for taking deer. The use or possession of single projectile ammunition (except arrows) or the use or possession of rifles or handguns while hunting or trapping at any time is prohibited in that part of southeastern Pennsylvania bounded by the following: Beginning at Washington Crossing on the Delaware River, west on Route 532 to Legislative Route 09034 (Bristol Road), north on Legislative Route 09034 to Route 611 (Easton Road) at Warrington, south on Route 611 to Legislative Route 09033 (County Line Road), north on Legislative Route 09033 to Route 309 at Line Lexington, north on Route 309 to its junction with Route 113, southwest on Route 113 to the Schuylkill River, northwest along the Schuylkill River to Route 100 (south of Pottstown), and south on Route 100 to the Pennsylvania line. Hunting deer with firearms is prohibited in Philadelphia County.

*****Antlerless Deer Season—December 13 to December 18* in the counties of Chester, Delaware and Montgomery, and in that part of Berks County south of Route 22, and that part of Bucks County within the Special Regulations (Buckshot) Area.

******State Game Lands and their locations by Counties for Muzzleloader Season:*

12—Bradford-Sullivan; 13—Sullivan-Columbia; 14—Cameron-Elk; 25—Elk; 26—Bedford-Blair-Cambria; 30—McKean; 33—Centre; 35—Susquehanna; 36—Bradford; 37—Tioga; 39—Venango; 42—Cambria-Somerset-Westmoreland; 44—Elk; 50—Somerset; 51—Fayette; 54—Jefferson; 57—Wyoming-Luzerne; 58—Columbia; 59—McKean-Potter; 73—Bedford-Blair-Huntingdon; 75—Lycoming; 86—Warren; 88—Juniata-Perry; 89—Clinton; 91—Lackawanna-Luzerne; 100—Centre-Clearfield; 104—Bedford-Somerset; 106—Berks-Schuylkill; 108—Cambria; 110—Berks-Schuylkill; 111—Fayette-Somerset; 127—Monroe; 141—Carbon; 143—Warren; 180—Pike; 210—Dauphin; 211—Dauphin-Lebanon; 221—Monroe; 233—Northumberland (Hoover's Island Only); 235—Franklin; 254—Dauphin (Clemson Island Only)

Game Commission Declares Two-Day Antlerless Deer Season—December 13 and 14

The Pennsylvania Game Commission, by resolution at its meeting on June 3 in Harrisburg, declared a two-day statewide open season on antlerless deer.

Hunters participating in the antlerless deer season must possess an antlerless deer license for the county in which they are hunting in addition to the regular hunting license. One antlerless deer license application will be issued with each license. Antlerless licenses are available from County Treasurers *BY MAIL ONLY. DO NOT MAIL APPLICATION TO PENNSYLVANIA GAME COMMISSION OR DEPARTMENT OF REVENUE, HARRISBURG.* See rules on reverse side of application form.

Only hunters who have not already harvested a white-tailed deer and who possess an antlerless license may legally harvest an antlerless deer. Antlerless deer are those animals with no visible antlers, regardless of sex.

In a specially designated area of southeastern Pennsylvania, the antlerless season extends from November 29 to December 11.

In the Special Regulations (Buckshot) Area, antlerless deer may be taken during the regular statewide buck season if the hunter possesses an antlerless deer license.

County antlerless license allocations are as follows:

ANTLERLESS DEER PERMIT ALLOCATIONS

<i>County</i>	<i>No. of Licenses</i>	<i>County</i>	<i>No. of Licenses</i>
Adams	4900	Lackawanna	6300
Allegheny	4150	Lancaster	3200
Armstrong	8250	Lawrence	2050
Beaver	4100	Lebanon	2700
Bedford	9400	Lehigh	1800
Berks	5050	Luzerne	10700
Blair	6400	Lycoming	12550
Bradford	10800	McKean	13250
Bucks	4300	Mercer	3100
Butler	4750	Mifflin	4100
Cambria	9200	Monroe	7300
Cameron	4950	Montgomery	3000
Carbon	6150	Montour	1200
Centre	13700	Northampton	2650
Chester	3250	Northumberland	3150
Clarion	5200	Perry	7200
Clearfield	13500	Philadelphia	----
Clinton	12750	Pike	6350
Columbia	4500	Potter	15200
Crawford	7750	Schuylkill	8850
Cumberland	4800	Snyder	2250
Dauphin	3900	Somerset	11700
Delaware	350	Sullivan	6100
Elk	9800	Susquehanna	4900
Erie	9200	Tioga	11300
Fayette	6100	Union	3350
Forest	6200	Venango	6950
Franklin	9100	Warren	12050
Fulton	5800	Washington	5650
Greene	4000	Wayne	10300
Huntingdon	10050	Westmoreland	9000
Indiana	9150	Wyoming	3600
Jefferson	7150	York	5200
Juniata	4700	TOTAL	440,350

Goose Blind Applications To Be Accepted September 1

APPPLICATIONS for hunting from goose blinds at the Pennsylvania Game Commission's two controlled hunting areas at Pymatuning and Middle Creek will be accepted from September 1 through September 20.

Sportsmen will be permitted to apply to only one of the two areas. If a hunter applies to both areas, he will not be eligible to hunt on either area.

A sportsman will be permitted only one hunting trip to a controlled goose shooting area this year. If he hunts geese on one area he will not be eligible to return to that facility as a hunter this year, and he will not be eligible to hunt on the other controlled goose shooting area in 1976.

There are 40 goose blinds at Pymatuning and about 25 at Middle Creek. The Game Commission will hold drawings to select blind holders for both controlled shooting areas.

A reservation will entitle an applicant to bring not more than three guests with him. Guests must be present to register.

There is provision to accommodate handicapped persons if they are successful applicants.

At Pymatuning, there will be four shooting days each week of the season, on Mondays, Wednesdays, Fridays and Saturdays. Shooting at Middle Creek will take place on Mondays, Tuesdays, Thursdays and Saturdays.

Reservation requests must be made on official application forms. Forms for hunting geese at Pymatuning are on orange-colored paper stock, while those for goose hunting at Middle Creek are on yellow stock. Hunters should be sure to fill out the correct form, since a Middle Creek application cannot be used for Pymatuning or vice versa.

Applications for hunting from goose blinds at Pymatuning and Middle Creek are available from the Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120; from any



SUCCESSFUL HUNTERS Ken Andreatta, left, and Bill Faltenovich, right, of Baden, Pa. The two men shot this pair of Canada geese near the Game Commission's Pymatuning area.

game protector; from the six Game Commission field division offices; from the Pennsylvania Game Commission, Pymatuning Waterfowl Area, RD 1, Hartstown, Pa. 16131; or from the Pennsylvania Game Commission, Middle Creek Wildlife Management Area, RD 1, Newmanstown, Pa. 17073.

The applicant's 1976-77 hunting license number, including the letter, must be listed on the application. Applications must be postmarked September 1 through September 20; any postmarked earlier or later will be rejected.

Only successful applicants, as determined in the drawing, will be notified. Reservations are not transferable.

The successful applicant whose name appears on the reservation must present the reservation in person at either the Pymatuning Waterfowl Area headquarters (registration building) located on Legislative Route 20006

between Hartstown and Linesville about four miles north of Hartstown, or at the Middle Creek Wildlife Management Area visitor's center located on Hopeland Road about two miles south of Kleinfeltersville.

Hunters should arrive at least one hour before shooting time to allow for the issuing of permits. All reservations for any one day will be valid only up to one-half hour before shooting time on the specified day.

A federal migratory bird hunting stamp (duck stamp) is required to hunt geese and ducks. 1976-77 hunting licenses and duck stamps must be presented at the check station.

Shooting hours for the controlled goose hunting areas at both Pymatuning and Middle Creek are from one-half hour before sunrise until noon prevailing time, except on October 30, when no hunting is permitted for any wild birds or wild animals in Pennsylvania before 9 a.m.

In addition to the goose shooting area, there are also three controlled duck shooting areas at Pymatuning. Fifty hunters can be accommodated at a time in each of these three areas, mak-

ing it possible for 150 hunters to utilize the duck areas on shooting days.

Shooting days for the Pymatuning duck areas are also Mondays, Wednesdays, Fridays and Saturdays, and duck area shooting hours are the same as for the goose area.

The Pymatuning duck areas are controlled shooting sections, but there are no advance reservations. A drawing will be held each morning to determine the 150 hunters who will qualify for the day if more than that number shows up. Those using the duck areas must check in at the registration building.

Ducks may be taken by hunters using goose blinds at both Middle Creek and Pymatuning, within other existing federal and state waterfowl hunting regulations.

Only one goose may be taken per day in Crawford County, where the Pymatuning Waterfowl Area is located. There is also a limit of one goose daily at the Middle Creek Wildlife Management Area.

This will be the third year for controlled waterfowl hunting at Middle Creek. Controlled waterfowl hunting at the Pymatuning started in 1962.

PGC Receives Over \$2 Million Federal Aid

Pennsylvania has received a record \$2,328,906 as its share of Pittman-Robertson Wildlife Restoration and Research Funds for the 1975-76 fiscal year. According to Game Commission P-R Coordinator John Doebling, this amount is \$158,812 more than the state received last year.

Pittman-Robertson funds are used for wildlife habitat development, game lands acquisition, and research.

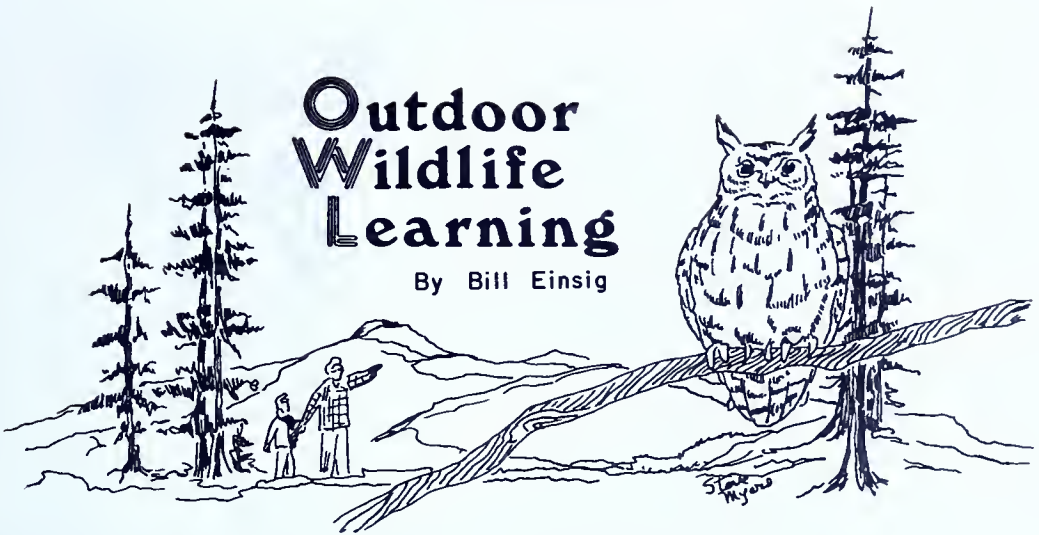
The statewide wildlife habitat development work includes improvements on about 1,170,000 acres of state game lands and almost 2,000,000 acres in the Game Commission's cooperative

farm game program. The land acquisition involved tracts in Lancaster and Crawford Counties.

Federal aid programs for wildlife restoration are administered by the U.S. Department of the Interior. Funds come from excise taxes levied on sporting arms and ammunition. Each state's allocation of funds is based on its total land area and the number of licensed hunters in the state. Under the program, states spend their own funds on approved projects, and are then reimbursed by the Interior Department up to 75 percent of the cost of the projects.

Outdoor Wildlife Learning

By Bill Einsig



Week in the Weeds

The Seventh Ward School of Washington, Pa., offers fourth-graders a "week in the weeds." Under the direction of teachers Emma Lee McMurtry and Janice Wolf, students spend five days studying in the outdoors at nearby Camp Buffalo. The week's activities are impressive and well organized: guest speakers, nature studies, art and music activities, plus plenty of fun games. In short, it's a well-rounded program designed to hold interest, stimulate curiosity and generate respect for the outdoors.

Two aspects of the program are worthy of special note. First, on Monday through Wednesday the camp is scheduled during the normal school day, with students leaving school in the morning and returning in the afternoon. On Thursday the students arrive prepared to spend the night at camp. By limiting the overnight experience to a single night, many logistic problems are avoided. The second noteworthy feature is that the organizers have managed to involve the parents and community to an outstanding degree. Parents provide transportation to and from camp—obviously saving the school district (and the taxpayers) a significant amount of money—and take part in the activities when possible. Community involvement is one of the new "issues" in education and, once again, it's evident that while ivory tower bureaucrats are talking, energetic teachers are already doing.

Think about a similar program for your schools and make your feelings known to teachers and administrators. For more details on this program write to Mrs. Emma Lee McMurtry, Seventh Ward School, 335 Second Street, Washington, Pa. 15301.

Check Smith!

It is constantly surprising how students manage to ask questions that I can't answer. After all, teachers are supposed to know everything. But I'm just as human as the next guy, so my response invariably is, "Check Smith!"

"Where can I get basic information on DDT and other chlorinated hydrocarbons?"—"Check Smith!"

"Can you give some examples of how strip mining influences succession?"—"Check Smith!"

"I'm interested in marine biology; where can I start?"—"Check Smith!"

"Smith," as my students discover in a hurry, refers to *Ecology and Field Biology* by Robert Leo Smith. When you need a comprehensive reference to ecological principles and theory, this text is a standout. Though the book was written for the college level, its comfortable blend of "heavy" theory with detailed examples makes the work a readable and valuable reference. Few high school courses could use it as a basic text, but any course related to environmental education should have several copies in the school library and the classroom. Believe me, they'll pay for themselves many times over.

The 90-page appendices alone warrant serious review. Included here are techniques for collecting data for numerous types of field studies, from estimating plant and animal populations to measuring productivity and community structure. It even lists steps for determining the Poisson distribution. Don't know what that is? Check Smith!

Request the book by author and title from Harper & Row, 10 East 53rd Street, New York City, 10022.

K-3 Go Outside

A new source of ideas for primary teachers is hot-off-the-press. *Lesson Plans for Using the Outdoors in Teaching*, by Mary D. Houts, is designed to help any teacher use the school grounds as an extension of the classroom. The activities are not only practical and straightforward but smack of the experience of teachers who have actually had to cope with 30 active kids outside. Houts is an urban environmental specialist with the Harrisburg city school district and, judging from her list of acknowledgements, has sought ideas and suggestions from involved teachers at the Camp Curtin Early Childhood Center.

Each lesson is carefully presented with a list of materials needed, inside activities, outside activities and indoor followups. All children are immediately involved in the lessons—seeing, tasting, counting, collecting, drawing, and so on. Some activities are designed to study the outdoors directly, such as picking out shapes of leaves or observing animal tracks. Other lessons simply use the campus as an arena for less tangible concepts like counting sets, or describing textures, or composing a story that tells about the changing forms of clouds overhead. These are important tasks for youngsters because they must not only learn the basics but also how to express themselves and get along with

others at the same time.

For further information, contact the Interstate Printers and Publishers, Inc., Danville, Ill. 61832.

A Word About Letters . . .

Many of the ideas and bits of information in this column come from people who simply like the outdoors. Your ideas and comments are always welcome. So, right now, why not write a note and include an idea or two and share what you've learned with the rest of us? Send all correspondence to: Bill Einsig, 1912 Karyl Lane, York, Pa. 17404.

HUNTINGDON CO. DGP Edward N. Gallew weighs highway-killed male bear. The animal tipped the scales at 429 pounds; it was hit on Route 22 between Huntingdon and Mount Union in the Jack's Narrows area.



WOODLAND THOUGHTS

BY LOU HOFFMAN

Wildlife Education Specialist



August is typically summer. The seasonal discomforts of heat and humidity successfully hide some interesting things from those hesitant to leave the "climate control" of indoor seclusion. But like the other eleven months, August too is different. She collects those natural surpluses of squirrels, rabbits, swallows . . . and, like the highpoint in a roller coaster ride, starts downward, rapidly ridding herself of the excess. Sometimes the sorting seems cruel. Sometimes it's abrupt. And sometimes it goes unnoticed. But one thing sure, it's real, and as humans, our inability to accept change and death as a part of change is a barrier that keeps us from understanding the natural world. Let's look at that world and share for a short while—on paper—what may be happening out there this month.

THE SUN RISES every day, yet there is always a newness about it that makes songbirds sing and chipmunks start. Dozens of different creatures set their daily clocks by this event. But the days are getting shorter. They have been since late June, but now, in August, the waning light is noticeable.

The clover field is ripe for a final cutting. Near the top of one stalk of green is a grasshopper. His mandibles move in a mechanical sort of way while his antennae probe the air for any alarming stimulus. Large compound eyes composed of hundred of facets collect a mosaic image of his world. His senses

keep him well informed of things nearby.

But forty yards away a sparrow hawk perches near the top of a dying walnut. His gaze sweeps the clover field. Nothing. Discontented with his vantage point, he takes flight and locks into a hovering position directly above the grasshopper. The new angle makes all the difference and the hawk detects his prey. Maybe he noticed the thickness of the clover stem. Maybe it was the difference in color. Or maybe it was the movement of the grasshopper's antennae. Whatever, the hawk spilled out of the sky and with a last second turn snatched the insect with his small talons. In an arced flight he returned to the walnut. The tiny drama was over.

A pasture grows out of the upper edge of the clover field and stretches to the woods farther up the hillside. Between the grass and the trees is a strip of taller grass protected from the cattle by a wire fence. The strip houses a goodly number of field mice who have a network of paths throughout. Traveling along one of these paths, a young field mouse stops instinctively at the sound of movement in front of him. A red fox pup has been drawn to the grassy swale by the strong scent of mice. To her, jumping and pouncing at furry targets that seem to be everywhere is a game. There is a reason for the game though, and her practice will yield vital lessons.

Meanwhile, the mouse, satisfied danger has passed, continues on his path. The movement of grass catches

the young fox's attention and she leaps to the spot. Startled, the mouse freezes under the grass stems forced on him by the pouncing fox. Instinct instructs the mouse to freeze. The fox hasn't even seen him. But panic overcomes the mouse and he darts past the fox. Seeing the mouse, the fox again pounces and this time her right front foot pins the mouse to the earth. Almost surprised, she pauses an instant before crushing the mouse with her jaws. The small squeek is hardly noticed as the wind blows through the grass.

The day goes on and dozens of little dramas like these continue. With each incident one animal grows smarter at the expense of another. Sometimes the loss might not be fatal, as one missed grasshopper will not spell death for a sparrow hawk, but these lessons are important. What might seem like a game, is not, and the moving force behind these actions is instinct, not thought. They go on even into the night . . .

Crawling from behind a fallen limb, the young chipmunk is doing some last minute foraging as the shadows lengthen. Unpatterned jerky movements keep him constantly alert. He probes his surroundings much like the tongue coiled near the other end of the limb. Nearby, a wood frog becomes active as darkness approaches and the snake is perplexed. Sensing the movement of the frog and the "smell" of the chipmunk is not usual. Frozen, relying on instinct, the stronger scents prevail, and the closer frog is struck and strangled and eaten. The sudden noise startles the chippie and he scurries to cover, but not with the concern and speed he should have. Too slow . . . he will pay for his mistakes some other day.

Sometimes critters just loaf or rest or even play, but even then it can be serious . . .

A doe and her two fawns of three months ago stand on the edge of a clear-

ing. Ears moving, eyes searching, they look over the nearby grassy slope adjacent to a highway. Without warning, all three race across a slope and stop suddenly. Then the doe snorts, jumps at the nearest fawn and then runs full tilt up the hill toward the woods. Following as quickly as they can, the fawns enjoy the new game as they release a storehouse of energy built up from lying on the upper hillside since midday. The three race across the opening, separate occasionally, and chase one another, going full tilt at all times. And then, being close to the road, the one fawn runs onto the highway to avoid his charging brother. The headlights catch his attention and he freezes. When he tries to avoid the oncoming truck, it is too late. Even play can be fatal.

There is a dynamic harmony in nature. Through our eyes the events may seem human-like, but they are not. Sometimes things happen in a patterned sort of way. The blacksnake, being more primitive than the deer, acted totally instinctively. At other times, deer or rabbits may actually play. But it is not thought-out play, it is spontaneous. There is a difference between their play and ours.

Animal behavior, while complex, can be more fully described than human behavior. Swallows by the dozens line telephone wires during late August. They are staging for the migratory flights southward. The shortening day length stimulates them to do so. It is a matter-of-fact sort of thing. The same for the blue-winged teal, which has already arrived from farther north to mark the beginning of the migration.

It's natural to imagine different things about wildlife. But it's important to keep wild animals wild—even in thought. To reduce them to something less takes away from their natural beauty. It takes the edge of excitement out of a walk or a camping trip or just watching a squirrel from a window. After all, sharing their world with ours is what makes it all worthwhile.

Annie Oakley

By Susan M. Pajak

PHOEBE ANNE MOSES

*Entered this world on August 13,
1860, in a log cabin
in Darke County, Ohio.*

*O restless little shooting star,
gone but not gone,
never far, you are . . .*

PHOEBE ANNE'S parents, Jacob and Susan Moses, once lived in Pennsylvania.

After Jacob's untimely death, the close-knit Moses family suffered stark poverty and near-starvation for many months.

As a result, Susan, a Quaker, allowed the two youngest children, Hulda and John, to live with other families. The oldest girl, Mary Jane, contracted tuberculosis and died. Lydia, Elizabeth, Sarah Ellen and Phoebe Anne remained at home.

Daily existence became an unbearable struggle, so the mother also allowed eight-year-old Phoebe Anne to live with the Eddington family.

When she had been but a few weeks under the Eddington roof, scarlet fever hit Phoebe Anne and she nearly died. After recovering, Phoebe Anne was "loaned" to a farmer and his wife. Here—unbeknownst to her family—she was subjected to hard labor, personal degradation and severe beatings for the next two years.

Unable to endure the abuse, Phoebe Anne ran away from this family and made her way home. For the next five years she kept her mother's cabin, sewed, and shot game using her late father's 40-inch cap and ball Kentucky rifle. Her expertise with firearms was uncanny.

At the age of 15, Phoebe Anne was invited to vacation in the home of her sister and brother-in-law, Lydia and



ANNIE OAKLEY, shown wearing her felt Stetson with star on the brim. Born Phoebe Anne Moses, she was a crack shot who became an American folk heroine.

Joseph Stein, who lived in the hilly section of northwestern Cincinnati called Fairmount. From this hill they could view the Ohio River. A section in the curve of the river was called Hyde Parke and Oakley. Phoebe Anne, who was called Annie by the family, very much liked the sound of "Oakley."

Annie's brother-in-law arranged for her to compete in a shooting match with Frank E. Butler, showman and impresario with traveling stock shows. Using her Kentucky rifle, Annie won the match, scoring a 25x25.

Frank E. Butler, once-married and the father of a son and daughter, fell in love with Annie. He persuaded her to

marry him. The ceremony took place on June 22, 1876. Annie was 16; Butler, who was born in Ireland and had come to America at the age of seven, was 26.

From that time on, Annie was in show business, shooting her way to world-wide fame under the name "Annie Oakley."

In 1884, Frank and Annie (now 24) joined the Buffalo Bill Wild West Show and stayed with it for the next 17 years. Countless audiences in America and Europe were amazed by the young woman's shooting ability.

Annie, meticulous about everything almost to a fault, was never without a large felt Stetson with a gold or silver star near the brim. Incidentally, Annie never wore buckskins; her costume was a broadcloth material made to resemble buckskin.

In 1901, when she was 41, Annie and Frank suffered near-fatal injuries in a train wreck near Wheeling, West Virginia, and the shock turned her hair completely white overnight. That year they retired from the Wild West Show, but Annie continued to shoot, setting new records.

From 1915 to 1922, Annie managed the Pinehurst Gun Club in Pinehurst, North Carolina, where she gave trapshooting exhibitions and taught women to shoot the rifle. An annual Annie Oakley Trapshoot is still held there, usually during the last week in October.

While on a trip to Leesburg, Florida, in 1921, Annie and Frank were in an automobile accident. Both suffered injuries; Annie's left her a semi-invalid.

On November 3, 1926, Annie Oakley died in Greenville, Ohio, at the age of

GIRLS, GUNS, & GAME...

66. As per her instructions, her remains were cremated and the ashes placed in a favorite silver loving cup. Frank died only a few weeks later. They were buried in a country cemetery near Brock, Ohio.

Remember Johnny Appleseed (John Chapman, 1774-1845)? His nursery and vast orchards were located near Pittsburgh—"on the brow of Grant's Hill, the first bit of rising ground east of the town." From this point in 1800 he started planting his apple tree seeds and seedlings, in advance of the settlements from the Allegheny to central Ohio.

To make old-fashioned applesauce take red, ripe, sweet apples; core but do not peel. Cut into quarters. Place in large kettle with a little water on the bottom. Cover. Simmer until apples are soft. Put apples *and the skins* in the blender, a little at a time. Blend. Put into clean pint-size canning jars. Seal and process in hot water bath for 25 minutes. (*Thanks to Mrs. W. Toye of Clairton for this recipe.*)

No-Slip Design

Tree frogs can fasten themselves to smooth surfaces by means of suction pads on their finger and toe tips.

Monkey Business

Macaques are the most numerous of all monkeys. They are the hardiest and most widespread, being found in the hottest parts of India and in regions where the temperature is below freezing.

The All-American Quartet

By Les Rountree

ON PORTABLE campground grills or backyard barbecue pits, the four most likely candidates for charcoal treatment are steak, chicken, hot dogs and hamburgers. The reasons are easy to understand. All four are readily available in most grocery stores, they taste good when cooked outdoors, and they are easy to prepare. There is another reason, too. Since there are more chickens and beef cattle in the United States than in any other nation in the world, it's almost patriotic to eat them.

By the time August rolls around, it would seem that most campground chefs would have acquired some culinary skill with these four favorites. Yet, in spite of the simple preparation required, far too many outdoor meals end up as chunks of undefinable stuff that looks little different from the charcoal it was cooked over. Ends up tasting like it, too.

Charcoal Cooking. . . Easy?

The hang-up just may be that cooking over open coals or charcoal is too easy. By that I mean the chef believes that little attention is necessary. "Toss the meat on the grill, attend to other chores and when dinnertime comes, the steaks, chicken or whatever will be done just right." I've actually read and heard that advice given by so-called experts. The only kind of cooking that does well with that kind of advice is soup and stew making.

Steaks are routinely destroyed over charcoal fires because of inattention. The better the cut, the easier it is to destroy it. Take a prime T-bone, porterhouse or slab of sirloin, for example. If it's U.S. prime, and most steak sold in markets is, it's already quite chewable before it's cooked. Cooking doesn't really tenderize a steak. It simply changes the flavor.



COOKING OVER CHARCOAL is easy, but attention must be paid to the job to assure mouth-watering results—like steak, chicken, hamburgers, hotdogs. . . .

There is a point of done-ness when a steak is as tender and flavorful as it will ever get. Additional cooking will remove more of the natural juices and cause the meat to take on that shoeleather texture that most of us have sampled at one time or another.

Describing the various stages of cooked steak has baffled waiters, waitresses, chefs and restaurant customers for many years. It probably will for many more, but I'll stick my neck out and take a chance on stating that most Americans like their steak around the medium-rare category. To me, that means a dark mahogany shade outside, changing quickly to bright pink toward



HOTDOGS CAN BE done easily (and deliciously!) over charcoal by laying them on the grill and slowly rolling them back and forth with tongs.

the center. A rare steak looks just the same on the outside but favors red, almost raw in the center. *Almost* raw I said . . . but not cold. A well-done steak is still the same outside color but the pink in the center is beginning to change to gray. In making steaks for a large number of people, the chef should try for medium-rare steaks. Most rare eaters will find this acceptable and the well-done eaters (there are fewer of them in the East these days) can always ask for a bit more fire time.

The fire for good steak cooking, or any cooking for that matter, should be started well in advance of actual grilling time. If charcoal is to be used, try to find the "real McCoy," not those pressed briquets made from all sorts of strange things. They impart a peculiar flavor to meat that I find objectionable. Start the fire with a bed of twigs if you can find them and then slowly pour the charcoal on top until it begins to ignite. Use the charcoal fire-starter liquid if

you must, but wait at least 40 minutes after that before cooking so that the petroleum distillates will be totally consumed.

Outdoor cooking can also be done with wood. A combination of dry and green is best for long-lasting coals and a reasonably smoke-free fire. But if you don't smell like smoke, it's not a cook-out, right? The important thing with charcoal or wood is to wait until a gray ash forms on top of the coals, which glow cherry red when you blow on them. That's a cooking fire. A blazing conflagration burns everything to smithereens before anyone knows what's happening.

Salt & Pepper

Salt and pepper the steak before laying it on the grill. Adjust the grill (or the fire) until the steak is about six inches away from the coals. If the steak doesn't sizzle when it hits the grill, the fire is not ready yet . . . or it's too far gone. The idea is to sear the meat quickly to seal in the juices. Assuming everything has been done right so far and the steak is an inch or an inch-and-a-quarter thick (which it should be), don't allow it to cook more than five minutes on that side. If the fire flares up around the meat, douse it with a water pistol or small cup of water kept close for that purpose. The steak should be cooked—not sacrificed to the fire gods!

After five minutes, turn the steak with a pair of meat tongs, large spatula or some other non-piercing instrument. Under no circumstances should a steak be impaled by a fork for turning. Every tiny hole will leak precious, good-tasting juice. A steak stuck three or four times during the cooking process will be as tough as a water buffalo's hoof. After the steak is flipped, allow it to cook no more than three minutes.



Good quality round steak, cut at least two inches thick and treated with tenderizer, is also excellent grilled. It will take longer to cook (10-15 minutes on a side) and should be sliced very thin, across the grain, when serving.

Test the steak with a sharp knife. Cut just a corner and check for color inside. If it meets your requirements, take it off the fire. If it's not just right, allow two or three more minutes and check again. This checking process is what separates the good chefs from the backyard destroyers. Good cooks always come equipped with a set of highly sensitive taste buds. They care about the quality of the stuff they serve. When Uncle Harry says with a giant haw-haw-haw, "If it's good enough for me, it's good enough for you," watch out! Chances are, Harry's been sipping the cooking sherry or something more potent and his nose and taste buds are about as sensitive as his toenails.

To treat a steak respectfully on the outdoor grill requires that the chef never stray far from the business at hand. Steaks need watching, turning and serving by one person. Too many cooks can indeed spoil the steaks just as they can the soup. If one person in your family or camping group has proven steak-grilling prowess, let him do the job. Every fire you'll ever light is a law unto itself. Some cook slow, some fast and others in between. Wind temperature, barometric pressure and a dozen other factors can affect the BTU output. It isn't like the thermostat on the kitchen range, so watch it.

Barbecued chicken on the outdoor grill requires the same sort of care; otherwise, that cut-up fowl that weighed four pounds at the meat market will end up at about one-and-a-half pounds. Over an open fire, the moisture in chicken can quickly disappear without liberal applications of barbecue sauce. I like to dip the pieces into the barbecue sauce before laying them on the grill. This browns the skin and coating together and prevents moisture loss.

Turn the chicken steadily at first, until it is firm and toasted. Then allow it to remain cooking on one side for 10 minutes. As with the steak, douse any

flame that pops up around the fowl. Turn the pieces, lay on some more sauce and cover them with a tent of aluminum foil. This will hold the escaping heat and cook the meat right in to the bones. Again, the heat of the fire varies, so check the pieces several times with your fingers. If the joints begin to break away from each other . . . it's time to eat. Chicken cooked outdoors is the most succulent brand of bird available.

Chicken Quarters

Large chickens (three or four pounds) can be quartered for barbecuing. This means a section of breast and a wing on one pair of pieces and a leg and breast tip on the other. Small broilers can be halved down the backbone. In general, chicken will take three times as long as steak to cook properly on an outdoor grill—maybe longer. If you care to do other things while the chicken is cooking, okay—but don't stray too far. At least four heavy applications of barbecue sauce will be needed to protect the meat from burning. This gives a crisp tomatoey coating that I think looks appetizing on the plate. I can't imagine barbecue sauce without tomato in it. Here is a good one for chicken.

BURGERS COOK FASTEST under a tent of aluminum foil. For really juicy hamburgers, buy ground beef with a generous amount of fat in it, and make those patties thick.





CUT AGAINST THE GRAIN, an inexpensive round steak can be juicy and tender—a culinary masterpiece. As with other charcoal-cooked foods, patience and care must be used.

Barbecue Baste

One 8-oz. can tomato sauce
1 tsp. *each*, dry mustard, salt, sugar
1 tbsp. steak sauce
½ cup red wine
Clove of garlic
Dash of fresh ground pepper

Combine above ingredients and simmer for 10 minutes. Add ½ cup cooking oil. Mix well and use to baste chicken.

For juicy hamburgers, buy ground beef with a generous portion of fat in it. Indoors, where temperature can be controlled, you can use leaner beef. Be sure to make the patties thick enough. Wide, flat burgers, the kind that the fast-food empires were built on, are okay for hurry-up lunches on the road, but the outdoor chef must try for something better. It's easy to get good

results if you remember to form those patties almost as thick as they are wide.

Follow the same instructions as with steak and don't stick 'em with a fork. The outside should be seared to save that interior juice. Constant prodding will produce the typical "sawdust sandwich" that many grilled burgers become. After the burgers have been turned, lay the buns on top of them for warming. Don't let the fire flare and try about six minutes on a side. The chef can test one by cutting into it if he must, but no one else should mess with his masterpiece. (There are dozens of old hunting camp stories that prove the wisdom of not interfering with the cook.)

Hot Dog Cookery

Hot dogs are of course much more fun when stuck onto a peeled birch switch and slowly turned over a hardwood fire. If you are using charcoal at your campsite or backyard affair, they can still be done this way, but you may have difficulty finding birch switches. Hot dogs for the multitudes can be done easily and deliciously over charcoal by merely laying them on the grill top and slowly rolling them back and forth. As with the steak, chicken or hamburgers, don't pierce them with a fork. Use a pair of tongs or two forks as makeshift pliers.

Boiling hot dogs is okay on a camping trip if you're forced inside by bad weather, but they end up tasting like so much filler. The flavor flows away into the water. The greatest hot dogs you'll ever taste are those grilled over a hickory fire. The ordinary hot dog then becomes a work of gastronomic brilliance. The ideal hot dog is golden brown on the outside and fairly squirts with juice when bitten into. It makes me hungry just thinking about it.

That does it. . . . I'm going to go out in the backyard and grill something right now! Want to join me?

Half as Many—But Lots Bigger

The feet of the ostrich are interesting. Instead of four toes on each foot such as most birds have, the ostrich has only two—one considerably smaller than the other.



ROBERT SCHOCH with a fine buck taken with Jennings compound bow and aluminum arrows. This 8-pt. has a 19½-in. spread; Schoch got it in Juniata Co.

Some Answers to

Compound Confusion

By Keith C. Schuyler

Photos from the Author

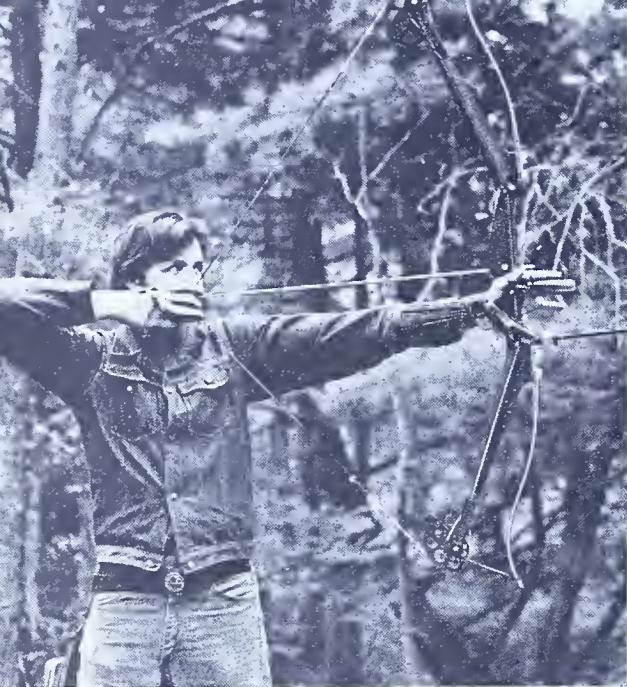
QUITE A FEW years ago, George Slinzer, many times state target champion and all-around good fellow, brought a compound bow to the Bowhunters Festival at Forksville. At that time it was as much a novelty as a six gold for me at 60 yards. George had some good things to say about it, and he permitted me to draw the crazy thing.

Of course, the compound wasn't recognized then for hunting. In fact, most Pennsylvanians wouldn't even have recognized it as a bow.

Nevertheless, the original compound bow built by H. W. Allen, its inventor, was causing a stir, however faint. For example, Gary Hunsicker was winning regularly using one in state competition in Kansas, and he took fourth place in the National Field Archery Association national shoot in 1967, at Jackson, Miss. He was shooting as a professional in the B class. William Coopridor of

Farmersburg, Ind., placed 13th in the 1968 Open at Detroit. Tom Jennings, using an Allen bow, and others using the Jennings version of the compound bow, took first place in all classes at the National Broadhead Flight Shoot at Ivanpah Dry Lake in 1967.

Allen, of Kansas City, Mo., had built the first commercial compound about 1967. Tom Jennings was second on the scene with a hunting bow built under the Allen patent. Today, the compound is built under license by 27 manufacturers, and most have several models. For some years after its development, the cable-rigged compound was not legal in many states, including Pennsylvania, but it now may be used—to some degree—in every state. Georgia, the last holdout, finally made it legal to use the compound, but only during the gunning season. To add to the confusion, there are some behind-the-scenes



THIS COMPOUND MODEL draws 50 pounds at peak weight but relaxes to 31 pounds at a 29½-in. draw. Archer is Anthony Kowalski, from Noxen, in Wyoming Co.

legal battles among certain manufacturers over patent rights.

If the legal departments of the various states were having problems classifying the compound bow, it was only a small flap compared to the stir in the ranks of tournament shooters. Until 1974, the compound was not even recognized by the Pennsylvania State Archery Association for tournament competition. Today it is accepted in all classes.

Commercially, the compound is gobbling up about 90 to 95 percent of new bow sales. They're all over the place. And it is time to take another look. The "new" bow was discussed here in January, 1974. The column covered the bow's construction and performance compared to conventional recurves. There have been so many modifications in just two years that we won't attempt to cover every nut, bolt, pulley, and eccentric wheel—that would take several magazines this size. But, since the compound per se has now been around long enough for a field evaluation, let's take a look at it from the standpoint of how it fits into the target and the hunting scenes.

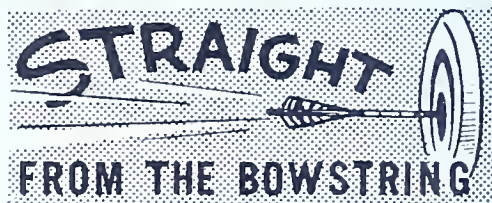
On the target scene, the big question mark was whether or not the compound

bow should be permitted because of its major advantage over conventional bows. This is in the fact that, once the string is drawn past the peak weight of any given bow, the muscle power to draw and to hold the string at its maximum is substantially less than with a self or a laminated bow. From my personal viewpoint, this is still a valid argument against permitting the compound to compete against conventional bows. The greatest advantage, naturally, is on the longer targets. Not only is the trajectory of a compound less than that of a conventional bow of comparable weight, even with the same weight arrows, but also much lighter arrows can be used in the compound. This reduces the trajectory even more, making it possible to aim much closer to the maximum scoring area, whether a bullseye or an animal face.

However, all is not peaches and cream with the compound. Release is much more critical than with older designs. And, although some companies build bows which relax to about half the maximum drawing weight at full draw, the lighter the hold at full draw, the more any error on release will be accentuated as the string passes through maximum power. This can be overcome by use of a mechanical release, but these have been relegated to a special unlimited division by the Pennsylvania State Archery Association.

Proper tuning of the compound bow can be more complicated than with the conventional bow. Some compounds provide very little clearance between the string and the cables which are the secret behind the bow's superior arrow delivery. This means that fletching must be so designed that it will not cause deflection of the arrow by brushing against a cable.

Since target archers are a small minority when compared to the total



number of bowmen across the state, the comparable advantages and disadvantages of the compound in the hunting field are more important to the average reader. And compounds are being used for hunting. Bow hunters reported taking 1714 deer with the compound in recent Pennsylvania seasons. This was slightly over a third of the total 1975 archery harvest of 5061, which was itself nearly 30 percent more than the 3909 taken in 1974.

Deer Success Ratio

There was little difference in the ratio of antlered to antlerless deer taken by archers. In 1974, 60 percent of the deer taken were antlerless animals. In 1975, 58.6 percent of the deer taken were antlerless. This seems to indicate that the success ratio may have been affected by use of the compound bow. But it didn't much change the attitude of those hunting deer relative to whether or not they wanted to settle for a doe or wait for a buck.

Statistics aside, there are some definite advantages in the compound bow as a hunting arm. Yet—and this is a most important fact—no bow will ever be any better than the person shooting it. Those who keep swapping bows, looking for some way to improve their individual abilities, would do better to look into a mirror than an archery catalog.

Results on the target line are frequently somewhat different from those in the field. It is a truism, however, that proficiency in practice is most likely to be reflected in results afield. The exception to this is the gal or guy who simply loses it when a wild animal becomes the target. Nothing mechanical has yet been invented to overcome buck fever.

Contrary to an opinion once expressed here, the compound is easy to carry through brush. In fact, it is so designed that the string does not even require brush buttons. Most compounds, if properly tuned, are relatively quiet on the shot, so this is not a disadvantage. The fact that the compound does have a lower trajectory, because of inherent speed as well as the capability of handling comparatively

lighter-weight arrows, is a decided advantage in thick brush.

A new element enters the picture when women and youngsters are considered. It has been my continued contention that nothing under 40 pounds draw weight should be used for a deer. This is admittedly an arbitrary weight, but it takes into consideration such things as creeping, inability to come to full draw because of surrounding brush, and failure to come to full draw in the excitement of the moment.



METAL RISER SECTION with pistol grip is a feature of the **Browning Compound Hunter**. The compound bow makes up 90-95 percent of all new bow sales, according to author.

Few women and youngsters are capable of holding 40 pounds steadily enough to take proper aim and get a good release. But they may be able to draw over the 40-pound peak of a compound and then anchor firmly at a substantially lighter weight. This still gives them the effect of the 40 pounds in a compound as well as the additional speed of a lighter arrow than would be used in a conventional bow. This opens the door to many more hunters than are capable of doing a proper job with a conventional bow. Having said this, I hope I will be removed from the mad list of those women who couldn't come up to 40 pounds and who disagreed with my minimum.

Okay, so the ugly old compound is a great bow. It compares somewhat with the boxer who could break a mirror just looking into it but is an extremely efficient fighting machine. The compound, cables and all, will deliver an arrow at speeds unheard of and undreamed of a few years ago.

But, there are still many more things to go wrong with a compound than with a conventional bow. A broken string, a

broken cable, or a broken anything else, is a major concern on the hunting scene. Unless one is completely familiar with the construction of a compound, he should keep a conventional bow or an extra compound in reserve on an extended hunting trip.

An interesting problem developed for me last fall when I went hunting for rabbits with a compound bow. Still targets present no greater problems than they do with a conventional bow, but I was carrying a 55-pound Jennings, the same bow I had used during the deer season. The first rabbit I saw took off on the run.

Swung, Drew

Naturally, I swung and drew in the same motion—and nearly pulled my arm from the socket. On moving shots, everything is quickly calibrated mentally, and the release comes when everything *feels* right. With a compound you get the full weight of the bow in the early inches of draw. For close, fast shots, it takes plenty of practice and different muscle power. I hung up the cable stick until the late deer season and went back to a conventional recurve for the balance of the small game season. (Didn't score on any running shot anyway!)

For someone who is shooting the compound regularly in tournaments or in practice, this should pose no problem. As a matter of fact, some target archers use a compound bow in speed shooting contests. It should be considered, nevertheless, that the early buildup on the draw tends to pull the aim off the target, whereas the tendency with a conventional bow is to draw down on a fine point simultaneously with the buildup in back pressure. Not a big deal perhaps, but it is a warning to those who plan to use the compound on moving targets—particularly those that go bouncing or flying out unexpectedly.

Overdrawing a conventional bow a few inches is seldom of any concern, even though any bow is about 95

percent broken at full draw. Overdrawing a compound, that is, drawing past the full extension of the eccentric wheels, can and will break many bows. It is essential that, when purchasing a compound, you obtain one which will accommodate your full draw.

On the plus side, there is about an inch of leeway when the bow is at full relaxed position past minimum weight. Consequently, if you are that much short of full draw, or if you reach full draw and creep an inch, you will still realize the maximum output of the bow.

Those who buy compounds from mail order outfits are asking for trouble unless they learn how to take down and put together a compound bow. As a matter of fact, a compound shouldn't even be bought from a dealer who doesn't know how to assemble and disassemble the bow he sells. This should be part of the potential service available in return for the profit to which he is entitled.

The compound is great. But what about all those other laminated recurves that were so great a few years ago? Are they outdated and inefficient? Well, they are a tremendous improvement over conventional bows that were being sold when the compound was just coming out of the eggshell. And there are some terrific buys around the country.

Big Break

Many dealers are selling brand-new, top-grade, conventional bows at or even below cost to get cash to buy more compounds. This is a big break for the beginning archer as well as for the veteran who might want to have an extra bow around the house. Just think for a minute about what some of the automobiles of the 1960s are worth today, compared to how they used to go down in price. How would you like to have a brand new 1932 Model A sitting in the garage?

Learn all you can about compounds, but don't let them confuse you.



COLUMNIST DON LEWIS and GAME NEWS Editor Bob Bell, right, flank Jim Tollinger. Tollinger, gun designer for Ithaca, holds his personal 10-ga. Magnum which he designed and made himself. Not many persons can start with some steel and wood and end up with a functional shotgun.

For upland game I like short, open-bored guns, but when the geese are flying high, I prefer hunting with . . .

THE BIG 10

By Don Lewis

IT WAS THE last day of a long-planned goose hunt. I was crouched low in a wooden blind, watching a big Canada angling my way. When I could see the eye and feet plainly, I swung my 12 gauge out in front and slapped the trigger. The goose never wavered, and I poured two more shots at the flying boxcar without ruffling a feather. Crestfallen, I watched my target disappear. I knew I had no one to blame but myself for missing a perfect shot.

The first morning had begun the same way, with me emptying my autoloader without results, and to add to my chagrin, noted outdoor writer Sylvia Bashline made it look easy when "my" big goose passed over her blind. My thoughts were cut short as three more geese came over the horizon.

They were flying directly toward me. I forgot about the problems of the first morning and concentrated on what I was up against at the moment. I saw the birds would pass too high, and my mind went back to reliving the events of the morning before, when I had filled out my limit after missing the goose Sylvia shot. Again, I was brought to my senses as two geese came in low over the cornstalks. I dropped the lead bird, but passed up a shot at the second one, knowing it had gotten out of range for the 12 gauge.

Twenty minutes later I dropped my second goose, but it took almost an hour before the third bird was collected. As I was carrying my heavy load of birds back to the pickup, I recalled a visit from a fellow who was



LEWIS AND JIM SINCEBAUGH, son of one of the guides on hunt. Big 10-ga. Magnum is a superb waterfowl shotgun efficient to fairly long ranges.

interested in a 10-gauge Magnum to be used strictly for long-range waterfowl shooting. He claimed the 12 gauge was inadequate. I wondered about his reasoning, as in these two days I had taken six birds with a 12 gauge, several at fairly long ranges. Fortunately, a hunt was coming up that would afford the opportunity to use the big 3½" 10-gauge Magnum.

A month later I was one of a number of gunwriters spaced along a line of trees on a farm about an hour's drive north of Ithaca, N.Y. Staring into the hard gray kernels of snow that a biting wind was whipping off of Lake Cayuga, we waited, shivering, for the geese we felt certain would pass over us. Fifty yards to my right, GAME NEWS editor Bob Bell huddled behind a gnarled apple tree, and beyond him, hidden in clumps of high weeds, were Jim

Carmichel, shooting editor of *Outdoor Life*, and Lea Lawrence, who covers the Tennessee region for that magazine. To my left were John Amber, editor of the prestigious *Gun Digest*, and gun designer Jim Tollinger. Beyond them, also hidden in the fencerow, were Dick Sherman, Ithaca Gun Company's director of operations, and John Pitzer, vice president of sales and marketing.

Impressive Outfit

We had all collected at this spot for one reason—to get firsthand experience with the Ithaca 10-gauge Magnum autoloading shotgun, perhaps the most impressive outfit around for long-range shotgunning. We had all done some shooting with this Big 10 at earlier meetings, but that was on claybirds, just to get the feel of the gun, learn how it worked, etc. This time was for real, with high-flying honkers the target.

For those not familiar with this gun, I should tell you that it was designed by Jim Tollinger, who is sort of a genius at such things, is gas-operated, has a 3-shell capacity, 32-inch full choke barrel, weighs just over 11 lbs., and has a counter-recoil gas system which reduces "kick" to about the level of a 12-gauge hunting gun. It's chambered for the 3½" shell, which, in the Remington ammo we were using, is loaded with 2 oz. of number 2 shot.

It wasn't long before I heard geese honking, but none came over. The first I actually saw passed beyond the right end of our line—but not out of range for Carmichel, who dropped a pair cleanly. It wasn't long before Bell took one that came in low, just over a tree that stood by itself in the field ahead of him, and a bit later a second one which got past the shooters, high. This one was 60 yards or so behind the line when hit,



and it crumpled like a bomber that's taken a missile, to send up a man-high spray of dry snow when it thumped to the ground. Periodically, gunners up and down the line had shooting—everyone but me, it seemed. Those big birds avoided my stand as if I had the plague. As time went on, more geese were dropped and others were passed up as individual hunters limited out, but I still hadn't had a decent chance. I wasn't what you'd call envious of the lucky gunners, but I sure wanted to try the big 10 gauge.

It was getting late when six geese came over me, very high. I swept the big semi in from behind and cut loose as the muzzle swung through the rear bird. It was a perfect hit, and the heavy load of 2s made my one chance a clean, instantaneous kill. All of a sudden, I was warm clean through, despite the frigid weather. I'd had the thrill of learning for myself just what a 10-gauge Magnum can do.

Our hunt lasted two days, and during that time I witnessed quite a few classic shots—which are somewhat different on passing Canadas than they are on grouse or pheasants! I've got to say it was impressive to watch an expert like Carmichel in action, and when the hunt was over I had reached the conclusion that the 10-gauge Magnum is a superb outfit for the waterfowl hunter who is truly skilled enough to take advantage of its long-range efficiency.

The Velocity Question

I'm not convinced the 3½" shell should be purchased specifically for only extra-long shots. The idea that the 10-gauge Magnum has far more velocity than other gauges is not true. For instance, the "Lyman Shotshell Handbook" shows the 3½" case will give a velocity of 1290 fps with 2 oz. load of shot in front of 54 gr. of AL-8 ignited by an Alcan G57F primer. A 3" 12 gauge will toss 1⅞ ounces of shot at 1125 fps with 32 grains of SR4756, and some 12-gauge velocities reach 1255 fps using Winchester paper cases and 1⅞ ounces of shot. My main concern here is to establish that velocity does not necessarily increase with shell size. A 3" 20-gauge shell is capable of sending

1¼ ounces of shot out the muzzle at over 1200 fps, which isn't very far from the Magnum 10's velocity. The significant factor with the larger cases is not more velocity but more shot.

My association with the 3½" shells goes back only a few years, but I have learned many hunters see the big case in the wrong light. There's something about the physical makeup of the 10-gauge shell that turns a lot of hunters against it before they ever test it. Truth is, it scares some of them. Once when I was turkey hunting with a Dumoulin 10-gauge double, a hunter asked me if I would actually shoot one of the big shells if a turkey appeared. Nothing showed, but I would gladly have given two boxes of handloads away for just one shot. I've showed the new Ithaca 10-gauge semi to many hunters, and some feel it's just too much gun.

Recoil

Recoil is the demon that shakes the timbers when the 10-gauge Magnum is mentioned. There's no doubt this is noticeable in a double, where basically only the gun's weight counteracts it (stock design, fit, shooting habits, etc., also have some influence on what is normally called "kick"); however, recoil with the big Ithaca semiautomatic seems about the same as a 12-gauge hunting load's because the gun is heavy and its gas system spreads the recoil over a longer period of time.

A lot of 12-gauge users take a dim view of the Magnum 10, claiming it won't do any more than their favorite. I'm convinced a lot of heated stove league discussions will take place as the Big 10 becomes more and more popular with waterfowlers and turkey hunters. I've already explained velocity is not far greater in the 10 gauge, but what can't be overlooked is bore dimension. Here, the 10 gauge is in a class by itself. With a bore measuring .775, against .729 for the 12 gauge, it means more shot with less shot deformation and also a bore that is more adaptable to steel shot.

Many articles have told how pellets are flattened against the sides of the bore as the shot charge rushes toward the muzzle. This does happen, and a

high percentage of the deformed pellets fly out of the pattern and are wasted. This would have made a perfect alibi for ages to come if the one-piece plastic shotcup/wad hadn't appeared a few years back. Here the shot charge is held in a plastic cup that is cut lengthwise at four places. These cuts let the cup open when hit with air resistance, allowing the wad to fall back as the shot charge moves forward. This simple innovation improved patterns so drastically that all types of choking gave much evenner and denser patterns.

Steel Shot Controversy

The controversy over steel shot is reaching a crescendo pitch, and there are reasonable points on both sides of the argument. I have had little experience with steel shot, but I feel nothing will beat lead for the ballistic purpose in question. However, for other reasons it could be that steel shot will be the only type permitted for waterfowl hunting in some areas. I'm inclined to think that the 10-gauge, with its large bore diameter, will handle steel shot better than other gauges. I have no proof for these assumptions, but the bigger bore should offer shorter shot strings and longer barrel life. It seems logical, since steel doesn't flow through a choke like lead, that the larger the bore, the better the pattern.

I've always advocated patterning a shotgun prior to taking it afield. It is important to know what pattern size and density a shotgun delivers with a given load at the range it will be used. It's not necessary for a grouse or rabbit hunt to pattern at 40 yards if most of the shots will be at 30. The duck or goose hunter should know what his gun will do at 50-60 yards with the size of shot that will be used. Knowing a gun's pattern potential is the only way the hunter can tell what his maximum range should be. Two boxes of shells fired at the patterning board will teach the shooter more about his gun than two seasons of hunting.

Prior to World War II, the small game hunter stuck with express loads of large shot. Number 4 shot was common, and many hunters used nothing smaller than 6s, even for quail hunting.

The war brought millions of Americans face to face with firearms and shooting. The end result, years later, was more people interested in shooting. Old ideas and concepts began to fade, and the fact that a dense pattern is necessary for clean kills stood out like a sore thumb. While our forefathers thought in terms of a few big pellets for deep penetration, it became known that multiple hits with smaller pellets are more effective for most shotgunning.

Serious hunters claim four or five hits are needed on any type of small game or waterfowl. If a shotgun fails to deliver that many pellets into a life-size outline of the game hunted at an established yardage, there is no other alternative but to decrease the distance or use the next size smaller shot. Going to the smaller shot is the answer if the shot size still maintains enough kinetic energy for the kill. For instance, number 4 offers a denser pattern than number 2, but 4s lose velocity and energy quicker. The hunter's problem is to get the best balance or compromise between pattern density, pellet energy and related factors.

Chokes and Barrels

Past columns on shotguns have leaned heavily toward shorter barrels and open chokes, and I still believe in those characteristics for general small game shooting. However, the waterfowler for the most part is faced with a different situation. His shots are normally longer, and pass shooting at fast targets is a way of life. Some jump shooting is done, but duck and goose hunters normally shoot from a blind at passing birds. This is where the 32" and 34" barrels show their stuff. Pass shooting has a special appeal with me, whether it's at doves or ducks, and swinging in from behind a speeding dove and touching off the trigger on the swing through ups my blood pressure considerably.

The full choke bore is a must for reaching out, but even it has its limits. Having a 10-gauge full choke outfit doesn't mean kills will consistently be made out to 70 yards. I've already explained what to expect from the big-



BEAUTIFULLY ENGRAVED 10-GA. is admired by John Amber, *Gun Digest* editor, left, and Jim Carmichel, shooting editor for *Outdoor Life*, holding gun. On far right is John Pitzer, in Ithaca's Sales and Marketing Division. At rear are Dick Sherman and Don Lewis.

ger bore, but I must caution against the belief that the 10-gauge Magnum has no limits. Its shell is larger and perhaps more impressive, but really all it has over the 12 gauge is a larger shot charge of bigger pellets, and that doesn't make the 10-gauge 3 $\frac{1}{2}$ " Magnum—or anything else—into a 100-yard duck gun.

While the 10-gauge Magnum is enjoying some extra attention, the big bore has been around for many years. Way back at the turn of the century, the 10 bore, as it was called then, was even more popular than today. Muzzle-loaders were bored for the 10 gauge. During that era, hunting was not so much a sport as it was a means of getting food. This is why the big 10 was

used exclusively by many duck and goose hunters.

The intent of this column is to explain some of the misconceptions about the 10-gauge 3 $\frac{1}{2}$ " Magnum. I'm not claiming it to be the one and only waterfowl gun, but I do think in the overall picture, it has a slight edge. It is not for skybusting. I abhor this type of shooting, and have seen enough of it in dove season to make me shiver. The 10-gauge Magnum has plenty to offer for waterfowl buffs and turkey fans. It's not a secret weapon nor will it tear a shoulder off from recoil. I don't want to be redundant, but I see the 10-gauge Magnum as the best choice for the hunter who has to take the long shots.

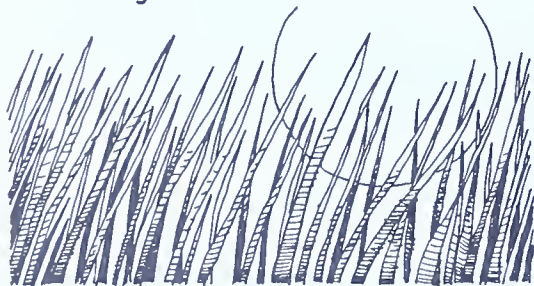
How They "Spin" a Web

The silk used for the construction of webs is produced from spinneret organs under the spider's abdomen.

In the wind

chuck fergus

information writer



Groundwater accounts for over 20 percent of the fresh water used in the U.S. Yet until recently, relatively little attention has been focused on pollution of this important resource. Some types of pollution affecting groundwater are: urban, industrial, agricultural, pollution from wells, salt water and live stock feedlots.

Most of the uses of DDT in the U.S. have been banned. However, its manufacture and exportation are still legal. According to the U.S. Environmental Protection Agency, which registers all pesticides, DDT is still being manufactured in the U.S. by 12 firms. The use of this potent, long-lasting chlorinated hydrocarbon in other parts of the world may ultimately harm U.S. wildlife and citizens.

Researchers have found a new use for mature aspen that may benefit wildlife and the livestock industry. A study by the South Dakota State University and that state's Game, Fish and Parks Department shows that mature aspen trees, ground into a ration, have a high cellulose content and are consumed readily by cattle. Cutting mature aspen stands also benefits wildlife by promoting regeneration of new aspen for food and cover.

Idaho Fish and Game Department officials reported that Union Pacific Railroad had sent word of a westbound train hitting a herd of antelope. Some 132 animals were reported killed when the train struck the herd, bedded down on the tracks.

No-deposit, no-return cans and bottles cost the consumer up to 25 cents of every beverage dollar spent. Also, the litter from these containers is scattered about the country and costs the nation a huge toll in wasted materials and energy. Industry currently sells America 60 billion bottles and cans a year, most of which are plowed into sanitary landfills after use and disposal.

A computerized collection of information on the more than 70 species of colonially nesting birds is being established by the Cornell University Laboratory of Ornithology. The Colonial Bird Register was organized to develop a computerized data base for the collection and dissemination of information concerning colonial birds.

Bio-telemetry—radio tracking of wildlife—has opened a new realm of research for wildlife biologists seeking to save endangered species and study wildlife populations. By monitoring signals from transmitters attached to animals, some smaller than a dime and weighing less than a half gram, scientists determine migration patterns, feeding habits and animal behavior in relation to time and weather conditions. From this they can develop ecological theories of animals—their communications systems, social structures, predation, mortality, home-range utilization, etc. Telemetry is especially useful for work on secretive mammals (such as leopards and wolves) and migrating species such as peregrine falcons and thrushes. One peregrine was tracked from Green Bay, Wis., to Tampico, Mexico, by its "beeps" on a wildlife radio band.

If the Arctic peregrine falcon disappears from Alaska, DDT used in Central and South America may be the cause. Unlike the American peregrine, which stays close to home, the Arctic peregrine migrates from its cliff habitat in the North as far south as Argentina. DDT used to control pest populations in South America has been implicated in egg shell thinnings, which reduce the number of successful hatchings.

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Orange eyeshine and a swiftly-gliding blur are all most people see of the flying squirrel, for this sleek creature sleeps most of the day, waiting for dusk to begin his graceful sailing through the treetops, furry skin-flaps taut between outstretched legs. A pity that his schedule and ours so seldom overlap, for buttery-soft gray-brown fur and enormous sparkling black eyes endear him to most who get more than a glimpse. Home might be in an old woodpecker hole, hollow limb, or nest box, or perhaps a leafy ball woven together with bark strips. The little charmer might even borrow your attic!

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On Hunters and Hunting

IT'S SEPTEMBER AGAIN. ANOTHER hunter's year has gone by—it's incredible how fast they pass anymore!—and it's time to start haunting the fencerow stands for the pass shooting on doves, the first gamebirds of the new license year. On the basis of numbers bagged, doves have to be the nation's top gamebird. When you stop and think about the conditions under which they're hunted, though, you might wonder why. What seems to the uninitiated a "good time to be outdoors," quite often turns out to be a miserable one in practice. The September beloved by songwriters and such, allegedly a golden time of the year, with dappled sunlight to warm you and soft breezes to gently cool your brow, is more likely to be a time of heavy humid heat that keeps clothing soggy for days on end, makes a light hunting jacket feel as impermeable as plastic, and curls your itching toes inside boots as hot as ovens. Still, shotgunners in countless numbers turn out to test their skill on doves. And in a short time they'll be facing the cold driving rains of November to boot pheasants out of the thick swales, then December's snow and ice storms in below-zero deer season.

What sends a hunter afield under such conditions? What drives him—or her—into the fields and forests day after day, sometimes week after week, when everything conspires to keep him home? It's easy, and even true, to say he wants to bring home some game for the table. That's the primary reason for hunting and it's been a valid one since man began walking the earth. But it's not the only reason, particularly at this time in our history when it's far simpler, and cheaper in the long run, to drive to the supermarket and buy any cut or amount of meat desired. No, a hunter doesn't go hunting just for food. He goes because for millions of years his ancestors lived by hunting, so that it's instinctive for him to continue this activity. Quite likely hunting is the oldest cooperative endeavor known to man, one which a few thousand years of agriculture and domesticated food animals cannot obliterate. This not only drives many individuals into hunting country when conditions are adverse as well as favorable, but makes them glory in what they are doing. Taking on nature on its own terms—the conflict itself—is part of the force that governs hunters. They know the best they can get in any such battle is a draw—no one ever conquers his world; just to survive can be a victory of sorts, but one to which the opponent is oblivious—yet they go on fighting. And that is what makes the hunter different from the casual hiker, the birdwatcher, the dilettanish outdoorsman who wanders the meadows on summer afternoons when the breezes are soft, but waits for another day if conditions don't suit him. The true hunter goes whenever possible, regardless of nature's moods. He has the predator's drive—the killer instinct that has made it possible for man to survive for millions of years and which is his only true hope for the years to come.—*Bob Bell.*

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Sailors of the Mountaintops

By George H. Harrison

"Thousands of generations of birds of prey—sharpshins, Cooper's hawks, goshawks, red-tails, red-shoulders, broad-wings, falcons and eagles—have followed this express highway south. The hawk-watcher sits on his boulder and glues his eyes to the sky. The long ridge, ablaze with autumn's reds and yellows, extends before us to the northeast. A sharp-eyed youngster is the first to spot a hawk. The boy calls out, 'Hawk over hill No. 3!,' but leaves it to more experienced eyes to identify."—Roger Tory Peterson

THE SPECTACULAR autumn scene from Kittatinny Ridge in eastern Pennsylvania is reason enough to make an annual pilgrimage to the top of Hawk Mountain. But the lure of tens of thousands of hawks to be seen winging their way south is irresistible in the hearts and minds of a legion of bird watchers which one Hawk Mountain author refers to as the "neomountain people."

As the sun moves south and the hours of daylight grow shorter, a cycle is triggered within every migratory bird which ends only with its death or its arrival at a predestined spot, perhaps as far away as South America, where it will spend the winter months.

The Atlantic Coast, the Great Lakes, major rivers and the Appalachian Mountains are the key landmarks in

eastern North America which guide birds to their wintering grounds in the southern U.S., Mexico, and Central and South America.

For thousands of years, raptors have used the lanes of the Appalachian Mountains both as a guidance system and as a magic carpet to ease their long flights south.

Perhaps more important than as a guide, the Appalachian range offers the migrant raptors a free ride on the thermal air currents created by solar heating of the valleys and slopes or by the upward deflection of northwest winds. Hawks, eagles and falcons moving southward from Canada, New England and New York will cross many ridges, each with its own peculiar air currents. By favoring these currents, raptors conserve energy and muscle

power needed to complete migratory flights of up to 4500 miles. When conditions are right, birds will rise to tremendous heights and glide for hundreds of miles without as much as a single flap of their wings. The rising of many hawks together in a single swirling updraft is called "kettling." When the birds have spiraled to the necessary altitude, they will stream out of the kettle and glide south to the next thermal.

The Kittatinny is one of the best of the Appalachian ridges for numbers of hawk flights. Also, its many sandstone outcroppings are ideal places from which to watch the birds wing their way from the Catskills to the Susquehanna and southward. Midway between the gaps created in the Kittatinny by the Delaware and Susquehanna Rivers is a bold outcropping known as the North Lookout of Hawk Mountain Sanctuary. It is here that the neomountain people gather each fall to watch the raptors flying by.

From past experience, I know that the best time to visit Hawk Mountain for the most spectacular flights is between September 15 and 20. It is during these five days that the number of broadwing hawks usually reaches a peak. Broadwings are the only hawks that migrate in flocks. Hawks of other species travel alone or in small groups. Therefore, my wife Kit and I scheduled our visit for September 17.

Weather conditions most favorable to a good flight are the same here as at Cape May, New Jersey—the passage of a low pressure system to the north over the New England states, an advancing cold front moving down from Canada, and northwest winds for two or three consecutive days.

We were most fortunate—September 17 was one of those few "top days" at Hawk Mountain. When we arrived at the headquarters building at 9 a.m., the count reported by shortwave radio was already over 300. We quickly put on our hiking boots (good walking

shoes are a must), paid our admission fee (\$1 for adults, \$.50 for children) and started up the trail. (There are no rest rooms at the headquarters nor at the top, so it is a good idea to stop at those along the trail at the foot of the mountain or halfway up the one mile trail to the North Lookout.)

The first of the two best places to see hawks at Hawk Mountain is at the South Lookout, established in 1967 as an auxiliary observation point and a lookout near the parking lot for elderly or handicapped visitors. The South Lookout is only a quarter-mile up the somewhat rugged trail to the top. When we arrived there, some 30 hawk watchers were spotting new arrivals every few seconds. We were told that 162 broadwings had been counted in the past 20 minutes—it was shaping up as a good day.

North Lookout

During the next half hour we counted over 50 more broadwings and had a good visit with some old friends, including Curator Alex Nagy. Curious about events at the top, Kit and I followed the trail to the North Lookout.

At the halfway point we were given a choice: "Scenic Route This Way" or "Short Cut This Way." We were eager and took the short cut. This express route to the top is no place for high-heeled shoes. Loose and often sharp rocks underfoot require sensible footwear. The short cut was steep and not well defined.

As we approached the top, I had the same feeling I've had many times in the past. Because the rhododendron and mountain laurel are so thick, I feel there must not be anyone at the lookout, but when we finally came onto the rocky outcrop, we were surprised to find about 50 hawk watchers clustered in groups of families and friends.

The view from the North Lookout is spectacular, especially when autumn leaves are at a peak. One youngster is quoted as saying upon his arrival there, "Look, Mommy, the whole world!"

The North Lookout was a busy place most of the time we were there on September 17. It turned out to be one of

From the forthcoming book, *Roger Tory Peterson's Dozen Birding Hot Spots in North America*, by George H. Harrison, to be published by Simon & Schuster, Inc. in October, 1976.

the three best days of the year for hawk numbers. During our few hours we saw over 3000 broadwings, a few sharpshins, marsh hawks (harriers), ospreys and American kestrels (sparrow hawks) and one goshawk.

However, we nearly missed the big flight that day. As we were leaving, we heard some excitement and walked back to the lookout just in time to see one flock of 500 broadwings—the biggest flight of the day. During the next 30 minutes, we saw over 1000 broadwings go by. One kettle alone contained 211 birds.

The procedure for identifying and counting hawks is well established. Observers sit on the rocks facing east, watching a ridge with five knobs (humps) on it. The knobs are numbered one to five, right to left. Most of the hawks are first seen above these stations. The first person to see a new hawk will call, "Bird over number three." Everyone looks at the new bird or birds and the official counter records the number and species.

It is important to tell you that none of the 3000 broadwings which passed Hawk Mountain that day was close enough for good photographs. In fact, most were mere specks in the sky, flying at great heights over the lookout. It took a trained eye to make positive identifications of birds at those altitudes.

Visitors are warned not to expect birds in cages or a hawk in every tree. In fact, you are very lucky if birds fly close enough to you for good pictures. However, the earlier in the day you get there, the better are your chances. By afternoon, the thermals carry the birds to great heights—sometimes even out of sight for some observers.

Occasionally hawks do fly close—some even landing in nearby trees. When a bald eagle flew past the North Lookout only 30 yards from the nearest viewer, it was immediately dubbed "The Bird of the Year."

The neomountain people are relative newcomers to the rocky promontory at Hawk Mountain. Until 1934, a different kind of mountain man climbed to the overlook. These men carried shotguns and were determined to kill as many hawks as their supply of ammunition would permit.

No one knows for sure when the first hawk shooters appeared on the mountain, but it had to be in the late 1800s or early 1900s. Regardless, when word got around, hawk shooting became popular. Records show that one man could shoot 500 rounds of ammunition, killing 200 or more birds in a single day. Two guns were often used to keep one from getting too hot.

In 1932, Mrs. Rosalie Edge learned about the mass killings from Richard Pough, a Philadelphia news pho-

SEPTEMBER, THE MONTH OF THE PEAK hawk flights, draws many enthusiasts to Hawk Mountain. This group is at the South Lookout.



tographer who has since become a noted ornithologist. From her New York City base, Mrs. Edge, chairman of the Emergency Conservation Committee, launched a campaign which culminated two years later in the purchase of 1300 acres of land to establish the world's first sanctuary for the protection of migrating birds of prey.

The fact that the area became a sanctuary did not mean that the killing stopped immediately. It became obvious to Mrs. Edge that someone had to be at Hawk Mountain during the gunning season, so she hired Maurice Broun as the first curator. Broun and his devoted wife, Irma, spent 32 years at Hawk Mountain, creating a legend of themselves and an institution of the sanctuary. The Brouns retired in 1966 to nearby New Ringgold where they could be close to the mountain while carrying on other conservation work.

Broun and Nagy

Broun's successor, Alex Nagy, joined the Hawk Mountain staff in 1953 as a maintenance man. For more than 20 years Nagy has worked, first with the Brouns and since 1966 as curator, swelling the Hawk Mountain Association membership to over 5000.

Today, Alex Nagy and a staff of four, including Barbara Lake, a nine-year veteran of Hawk Mountain, supervise an enthusiastic conservation education program. Their new headquarters building, dedicated in 1974, could be a blueprint for any modern environmental nature center.

Hawk Mountain Sanctuary is open the year around, but is most popular between August and November when the hawks are flying. On a typical October weekend, more than 3000 guests visit the sanctuary. The reported 50,000 visitors a year does not include 5000 to 8000 youngsters who use Hawk Mountain as an outdoor classroom. James Brett, education director, trains teachers who in turn conduct their own classes in Hawk Mountain facilities.

Though I was never one of those students who visited the sanctuary with his classmates, I did see Hawk Mountain for the first time as a youngster



during the late 1940s. Tagging along after my dad with oversize binoculars hanging heavy on my neck, I recall some glorious fall days spent perched on the rocks at the North Lookout. On one such occasion (perhaps my first trip), Dad and I visited with Roger Tory Peterson as we tallied the passing raptors. I vividly recall the deep discussion between Dad and Roger over camera equipment and the techniques of nature photography. (Roger has become one of those extremely rare people in the nature field who is highly competent as a photographer, writer and artist.)

My interest in Hawk Mountain continued as an adult. During the 5½ years I edited GAME NEWS, I visited Hawk Mountain on a number of autumn days to renew my memories of the autumn pageant.

I recall that hawks, eagles and falcons were not the only birds seen at Hawk Mountain in the fall. Crows, ravens, turkey vultures (sometimes called "Kempton eagles" or "TVs" by veteran watchers), waterfowl and a great variety of songbirds also pass the lookouts.

I remember seeing great numbers of warblers on one of my visits as a youth. Magnolias, yellow-rumps (myrtles) and Nashvilles, I believe, were the most common. It was not unusual to see ruby-throated hummingbirds zip by and great numbers of monarch butterflies sail along on the breezes.

It was no surprise then that Roger Peterson listed Hawk Mountain in September as one of his dozen best birding hot spots in North America.

Though the great flights of broadwings can be seen only during September, there are other good flights to be seen at Hawk Mountain. In late September, hundreds of American kestrels (sparrow hawks) and ospreys come through. Early October brings thousands of sharpshins, while late October is the time for red-tailed, red-shoul-



ALEX NAGY joined the Hawk Mountain staff in 1953, became curator in 1966 following the retirement of Maurice Braun, who had served in that capacity for 32 years.

dered and marsh hawks (harriers). November is highlighted with more buteos plus golden eagles, goshawks, and rare rough-legged hawks from the arctic. Bald eagles are more often seen in August and September, peaking around Labor Day.

If you have only one week to devote to hawk watching, do as we did—go there in the middle of September.

Cape May, New Jersey, is also at its peak during this same period, so we decided to devote nearly two weeks to the two areas. On September 18 the weather turned cloudy and rainy. Despite the bad weather, 875 hawks, mostly broadwings and sharpies, were recorded. At one period during this day, we were two of only four people at the North Lookout. The 19th was a complete disaster with more rain and fog, so we moved on to Cape May, intending to return to Hawk Mountain the following week.

Ideal weather conditions for a super flight hit Cape May and Hawk Mountain on the same Monday morning, September 22. While we were having the birding of a lifetime in New Jersey, those at Hawk Mountain recorded 4744

broadwings, one of the best days in recent history. Too bad we couldn't be at both places at the same time.

Knowledge of the big days at both Cape May and Hawk Mountain on September 22 reinforces a well-known fact: specific weather conditions are vital to a good migration. Apparently September 22 was perfect for the migration of birds throughout eastern North America. The challenge is to anticipate these conditions and then be at the right location to experience the phenomenon. Both Hawk Mountain and Cape May Point are the right locations. Mid-September is the right time. As to the exact date—well, you have to take it from there. One day can make a difference.

The following day, September 23, was the day Hurricane Eloise moved in and shut down both Hawk Mountain and Cape May for bird watching.

During the hurricane weather, however, one of the assistant curators at Hawk Mountain, Mike Heller, donned two raincoats and sloshed up to the South Lookout for 1½ hours. Surprisingly, he saw 146 broadwings, most of which were close enough to count feathers. They actually lit in the trees around him. So, bad weather doesn't necessarily mean no hawks.

Unusual is Common

Unusual happenings are somewhat common at Hawk Mountain. For example, there was a day in 1974 when three different species of eagles were seen. Since there are only two well-known species of eagles in North America, one would have to be skeptical. However, a tawny eagle with jesses (straps) on its legs was seen at Hawk Mountain on the same day that both bald and golden eagles had been recorded. It was later discovered that the tawny, a native of Africa and Asia, had escaped in Philadelphia some six months earlier.

Some years ago, a kermadec petrel from the South Pacific was identified at Hawk Mountain by ornithologist Robert Cushman Murphy.

Many of the unusual events at Hawk Mountain concern people, not birds. No less than four marriages have taken

place at the North Lookout. One wedding party carried their formal wear up the mountain in paper bags, changing clothes in the upper rest rooms. Alex Nagy received a radio call from the top which went something like this: "Alex, you'll never guess what is happening up here. We're having a wedding, complete with preacher and wedding party." Alex never did figure out which group it was, because they changed into hiking clothes before returning to the bottom of the mountain.

Nagy told us about an elderly woman who phoned Hawk Mountain regarding her sister's last will and testament. The deceased sister had been an actress of some fame and her last request was to be cremated and have her ashes spread by an eagle. The caller wanted to know if Hawk Mountain had any eagles who would spread the ashes.

The woman apparently didn't know that eagles merely pass over Hawk Mountain . . . and fewer today than ever before. No sooner had the hawk gunners been silenced throughout North America than a new and far greater threat appeared. The mass use of DDT reduced the numbers of many birds of prey. Bald eagles were among the hardest hit. In 1950, watchers saw as many as 142 bald eagles. Only 25 to 30 have been recorded in recent years. The bald eagle, a fish eater, obtains much of its food by picking up weakened or injured prey. In recent years, the ailing fish have often been those suffering from effects of chemicals. This selective feeding process has backfired on the predator.

Other raptor species gravely affected by DDT are the peregrine falcon, Cooper's hawk and osprey. Strangely, the osprey numbers at Hawk Mountain do not reflect an osprey problem, perhaps because those flying over Hawk Mountain are from fresh water areas, whereas the ospreys hardest hit are those that feed near salt water.

Nevertheless, with the ban on DDT, some increases have already been noted, but not significant enough to be decisive at this time. A letter from Alex

Nagy reported 1975 totals of over 31,000 birds, the second highest count in Hawk Mountain history.

Nagy noted a dramatic increase in the numbers of butterflies in the Hawk Mountain area. Butterflies may be better indicators of the health of our environment than birds.

In any event, Hawk Mountain Sanctuary is one of the truly great birding spots in North America. As someone quipped to a questioning reporter recently, "Hawk Mountain is the only place in the world where people willingly donate \$1 to \$100 just for the privilege of sitting on a hard rock in the rain!"

Visitor Tips

Clothing: Plan your clothing as you would for any fall outing in the northeast. Good, sturdy walking shoes or hiking boots are important.

Lodging: Pottsville and Schuylkill Haven to the north have several motels. There are also motels in Hamburg, Lenhartsville, Krumsville and along Interstate 78.

Restaurants: The closest restaurants are in New Ringgold, Kempton, Hamburg, Lenhartsville, Shartlesville and Orwigsburg, as well as east on I-78. We always pack a lunch if we're planning to spend the day on the mountain because we hate coming down to drive to a restaurant and risk missing something.

Camping: No camping is allowed on the sanctuary, but there are at least three campgrounds within a short drive—two in Lenhartsville and one in Auburn. They have facilities for RVs as well as tents.

Picnic Areas: You may picnic at either Lookout, but you must take your trash along with you when you leave. Leaser Lake, about five miles to the west, has a picnic area with tables.

Rest Rooms: None in the headquarters building or at the Lookouts—only at the bottom of the mountain and about halfway to the top.

Telephone: Although the headquarters does not have a public phone, the Hawk Mountain personnel would allow the use of their telephone in the event of an emergency.

Gasoline: Dreherstown, Port Clinton and Kempton have gasoline.

Groceries: Kempton and Dreherstown, Schuylkill Haven and Pottsville.

Hospital: Pottsville is the closest, but Reading and Allentown also have hospitals.

Airport: Allentown or Reading

Bird List: A bird list of 296 species is available at headquarters, where they also sell copies of *Feathers in the Wind*. This book by James Brett and Alex Nagy will give you a good background to make your Hawk Mountain visit even more enjoyable.

First...



T. Ogilby

catch
your
rabbit

YOU CAN STILL enliven your meals, in these days of soaring prices and strapped budgets, with easily obtained free meat cooked gourmet style. This you can accomplish by taking the fullest possible advantage of America's most hunted game—the rabbit—which can either be enjoyed fresh from the woods and fields or, when especially bountiful, will because of their rich leanness retain their fine flavor and texture for up to a year frozen.

The more common ways of preparing these chickenlike feasts are well known to every sportsman's family, but here are a piquant plentitude of kitchen and time-tested standbys that will turn any repast into a banquet. When the cook lacks an ingredient called for in a recipe, it will be readily evident where he or she can substitute another. Save the more elaborate delights for the holidays. Good hunting and happy eating!

RABBIT A L'ORANGE

Dust about a 3-lb. rabbit inside and out with freshly ground black pepper, salt, and paprika before roasting it, with a stick of margarine, in an open shallow pan in a preheated 400° oven for half an hour.

While this is going on, boil a pound of small white onions in water until they are tender. Drain, add 2 tbs. margarine to the saucepan, and glaze them, including ½ tsp. salt and ⅛ tsp. of pepper. Put the onions in the rabbit, together with a diced carrot, ½ tsp. thyme, ⅛ tsp. ground cloves, and a bay leaf. Roast another 15 minutes.

This will give you time to peel 2 navel oranges, grate the peel, cover this with bubbling water, and set to one side until you are ready for it.

Unless you already have some brown sauce, make a cupful by dicing an onion and sauteing it in 2 tbs. bacon fat until both are brown. Smoothly stir in 2 tbs. sifted flour that has first been turned into a thin paste with a little water, ½ tsp. salt, ⅛ tsp. freshly ground black pepper, and a dusting of sugar. Bit by bit, pour in a cup of beef consomme, bring to a bubble, and then cook over very low heat for 10 minutes. Add ¼ cup of this sauce to the rabbit, saving the rest in the refrigerator to serve over cold meat slices. At the same time put ¼ cup of port over the rabbit and continue roasting. Once the meat is tender, fork it onto a hot platter atop a steaming bed of brown rice and keep warm.

Strain the remaining juices from the roasting pan into a saucepan, stir in a can

of concentrated chicken broth, and scatter on the drained orange rind. Bring to a bubble, then stir in 2 tbs. currant jelly.

Alternate the glazed onions around the rabbit with sliced orange, festoon with a few sprigs of watercress, and pour on the sauce. The taste-tingling splendor, and the fragrance, will be like walking suddenly into one of the great restaurants of the world.

RABBIT AND CHESTNUTS

To preserve all their natural, too-often-overpowered succulence, roast a brace of young rabbits until fork tender in a low uncovered pan in a slow 325° oven, seasoning them only by brushing with melted margarine. Or do the same thing on your rotisserie.

Serve hot with chestnut puree made by boiling ½ cup diced celery, the drained contents of two 11-oz. cans of chestnuts, and a can of condensed chicken broth in an open saucepan until nearly dry. Then pulverize in the blender or by pressing through a sieve. Stir in ⅓ cup of light cream and a tbs. of margarine. Dust with paprika. This is like sudden late-afternoon sunshine after a long, wet week.

BORDER RABBIT

Rabbit we've enjoyed while living on the edge of the desert in New Mexico were enlivened by some of the heat and color of the spice-conscious republic to the south. Two 1-lb. rabbits will handily serve four if you'll split each in half. Rub the pieces liberally with salt and garlic, especially the latter, then dredge lightly in flour.

Start the cooking by browning 2 small chili peppers in a Dutch oven with ½ cup cooking oil. Working over the Dutch oven, crush the peppers through a sieve to extract the juice. Discard the pulp. Brown the meat until golden, forking it around to color both sides. Cover and simmer an hour or until fork tender. Spoon away the excess fat.

Toward the end, melt 2 tbs. of margarine in a separate, good size pot. Sauté a cup of sliced fresh mushrooms, ½ cup diced onion, a large shredded carrot, and 3 tbs. diced green pepper until soft.

Stir 1 tbs. of flour into a can of concentrated chicken broth, first making a paste of the flour and 1 tbs. of the broth and adding it smoothly to the whole. Pour this gradually into the vegetable mixture over low heat, all the time stirring. Add the juice of a medium-size orange. Stir until

By Bradford Angier



bubbles appear and the sauce begins to thicken.

Add 3 tbs. peanut butter, 2 tbs. grated orange peel, 1 tbs. of the small flattish sesame seeds, $\frac{1}{2}$ tsp. aromatic cumin seeds, 4 whole cloves, $\frac{1}{8}$ tsp. nutmeg, and salt and freshly ground black pepper to taste. Simmer about a dozen minutes or until the rabbit in its Dutch oven is ready, stirring every now and then. Skim the fat from the top of this sauce.

Arrange the quartet of halved rabbits on a hot platter and pour the sauce over them. Sprinkle with paprika for an added fillip of vitamins and color. Festoon with chopped watercress and serve. It'll be as if the light slanting on this is from another world.

GYPSY RABBIT

This is so good cold that it will do no harm to make a little extra. Shake 4 lb. of disjointed and cut-up rabbit, several pieces at a time, in a paper bag with $\frac{1}{4}$ cup of sifted flour that you've seasoned to taste with freshly ground black pepper, salt, and parsley flakes. During this time have a large, heavy frypan warming over low heat.

Now sauté a cup of chopped white onion in $1\frac{1}{2}$ tbs. of salad oil and an equal amount of margarine, cooking them only until they are soft but now brown. Then, piling the onions to one side, bronze the rabbit.

Tip in bubbling water to cover, about a quart. Add a cup of raw rice, 1 tsp. of seasoned salt, and 1 tsp. of paprika. Clamp on the lid and simmer 20 minutes.

Shift to a well greased $2\frac{1}{2}$ -quart casserole, cover, slide into a preheated

moderate 325° oven, and bake $1\frac{1}{2}$ hours or until the meat is tender, gingerly lifting off the cover for the last 15 minutes so that most of the juices will be absorbed and the top temptingly tanned. Finally, stir in a cup of sour cream, decorate with a bit more paprika, and serve very hot. Such a dish is a satisfying blend of heartiness and richness, simplicity and sophistication.

RABBIT ASPIC

Simmer a whole, dressed, 3- or 4-lb. rabbit until tender throughout, first covering it with cold water. Fork out the rabbit. While you're boiling the uncovered broth down to 4 cups, bone the meat and cut it into bite-size pieces, working across the grain as much as possible. Season to taste with salt, freshly ground black pepper, paprika, and parsley flakes.

Add 4 tbs. (envelopes) of gelatin, soaked in $\frac{1}{4}$ cup cold water, to the quart of bubbling stock. Season with 1 tbs. Worcestershire sauce and salt to taste. Add $\frac{1}{2}$ cup of chopped stuffed olives and the meat, stirring everything well. Pour into a special mold or bread pan, cool, and finally chill in the refrigerator until it sets. Doled out on crisp lettuce and topped with cold, fresh mayonnaise, there's a joy to this like monarch butterflies dancing in the sunlight.

RABBIT QUEBEC

Cut and disjoint 3 lbs. of rabbit pieces, dry with paper toweling, and brown in a frypan with $\frac{1}{4}$ stick of sputtering margarine. Season to taste with salt, freshly ground black pepper, and vitamin-replete paprika. Arrange in a casserole and sprinkle with $\frac{1}{2}$ cup of diced onion and a clove of minced garlic.

Stir 2 cups of good dry sherry into the hot juices remaining in the frypan, scrape and mix, then pour over the meat. Cover and bake 2 hours or until tender in a moderate 325° oven. This is relaxing after a day in the hot sun and the resinous smell of spruce.

RABBIT WITH ARTICHOKE

Rub a couple of 2-lb. rabbits inside and out with proportionately 1 tsp. salt and $\frac{1}{8}$ tsp. apiece of freshly ground black pepper and parsley flakes. Roast in a preheated moderate 325° oven for $1\frac{1}{2}$ hours or until tender. Set aside to cool. Then bone, ending up with as large pieces as possible.

Sauté a cup of sliced mushrooms, a chopped clove of garlic, and a tbs. of chopped green onions in $\frac{1}{4}$ stick of margarine over low heat until the mushrooms

start to wilt. Add a package of frozen artichoke hearts, $\frac{1}{4}$ cup dry sherry, and the meat. Cover and bring to a simmer for 15 minutes.

For the sauce, melt 2 tbs. of margarine in a saucepan. Mix 2 tbs. of flour into a thin paste with a little water and stir this smoothly into the grease. Add a cup of cream, another $\frac{1}{2}$ cup of dry sherry, a tbs. of Madeira, and $\frac{1}{8}$ tsp. nutmeg, and bring to a bubble. Season to taste with salt and freshly ground black pepper, and simmer another 2 minutes.

Heap the rabbit on a hot platter. Spoon the sauce over it. Garnish with triangles of hot toast, golden with garlic margarine. Try this sometime when the full moon is hidden by the clouds but has turned them as silver as an original kopeck.

BRAISED RABBIT TIDBITS

Remove some 1 $\frac{1}{2}$ lbs. of rabbit meat from the bones, cutting the larger chunks into bite-size portions. Roll in flour seasoned to taste with garlic salt, freshly ground black pepper, and paprika. Then begin to brown in a large frypan with 3 tbs. of salad oil.

Before the rabbit is thoroughly golden, add 4 thinly sliced large carrots, 1 thinly sliced large onion, and 1 thinly sliced green pepper. When everything is satisfactorily tan, pour in a large can of tomatoes, cover, and simmer an hour or until the meat is tender. Serve over hot rice. This is really something when over against the dining room windows night has lowered its shadows, mink-colored in the moonlight.

COLD RABBIT LOAF

Here's a hot-weather luncheon or supper dish, as refreshing as an early morning in the spring. Start by bringing 4 lbs. of rabbit and 1 $\frac{1}{2}$ quarts of cold water slowly to a bubble in your Dutch oven. Skim. Then add a diced onion, a diced carrot, a large sliced stalk of celery with the leaves, a sliced clove of garlic, 1 tsp. salt, $\frac{1}{8}$ tsp. freshly ground black pepper, a bay leaf, and several sprigs of watercress. Cover and simmer 1 $\frac{1}{2}$ hours or until the meat is separating from the bones.

Remove the rabbit, and while it is cooling strain the stock. If there is more than a quart, boil it uncovered to that amount. Soften 2 tbs. of gelatin in a little cold water and stir thoroughly into the seething stock.

Bone and dice the meat. Add to the stock and, tasting, correct the salt and pepper. Then pour into a casserole and allow to cool before setting in the refrigerator.



tor to chill and gel. This is excellent with cold potato salad.

RABBIT CASSEROLE

Slowly brown 3 lbs. of rabbit, cut into serving pieces, with $\frac{1}{2}$ stick of margarine in a large frypan atop the stove. Then warm $\frac{1}{4}$ cup applejack in a saucepan, set afire, and pour over the meat. Afterwards, fork out the rabbit and place to one side.

Add 1 $\frac{1}{2}$ cups diced onion, 1 cup diced carrot, and stir around over medium heat for half a dozen minutes. Now include $\frac{1}{4}$ cup sliced mushrooms and cook another 3 minutes.

Remove from the stove long enough to stir in 1 $\frac{1}{2}$ tsp. of tomato paste and 3 tbs. of sifted flour that have already been blended into a smooth paste. Pour in a cup of hot water in which a chicken bouillon cube has been dissolved and $\frac{1}{2}$ cup good dry sherry. Stir over low heat until everything comes to a bubble, season to taste with salt and freshly ground black pepper, and simmer for 3 minutes.

Transfer to a casserole, mix in the meat, sprinkle with grated Parmesan cheese and paprika, cover, and cook in a moderate 350° oven for 45 minutes or until the rabbit is tender. When you take the first enchanting taste, see if the earth doesn't rock a little under your feet.

CHARCOAL BROILED RABBIT

The first time we ever cooked this, on a California patio, I caught a glimpse of a

bushy tail and a narrow mask in the cool black night shadows. Evidently the heady smell of his natural prey had brought the fox near the sputtering meat and the still, hushed circle of gleaming charcoal.

Marinate a brace of tender young 2-lb. rabbits, cut and disjointed into serving pieces, all afternoon in the refrigerator in ½ cup salad oil, ¼ cup of your favorite wine, 2 tbs. chopped parsley, 1 tbs. finely chopped green onion, 1 tsp. dried sage, ¼ tsp. freshly ground black pepper, ⅛ tsp. apiece of tarragon and rosemary, and the juice of a crushed clove of garlic. Move the pieces several times, making sure that all parts of the meat come in contact with the mixture.

Over the glowing charcoal turn the pieces occasionally so that they cook evenly, at the same time brushing each anew with the marinade. About 45 minutes should find them juice-filled and tender, the crust crisp and the savor enchanting.

RABBIT SALAD

Here's a cold rabbit salad, perfect for a buffet meal, that'll make a day brighten up like a cliff swallow swooping into the sunlight. While you're cutting 3 cups of cooked rabbit into small cubes, get enough water boiling in a saucepan to cover 4 eggs by an inch. Place the eggs in the pan with a spoon and let the temperature immediately drop to a simmer, keeping it that way for 8 to 10 minutes, making sure that the eggs remain covered with water all this time. Then remove from the heat and plunge into cold water. If the eggs are cracked slightly before they cool, peeling will be easier.

Chop the hard-cooked eggs into small bits. Then chop up 1½ cups celery. Combine rabbit, eggs, and celery with ¼ cup of the rabbit stock and 1 tbs. cider vinegar, adding sufficient mayonnaise to hold the mixture together. Season to taste with salt and freshly ground black pepper. Decorate with paprika and have four chilled plates ready.

RABBIT CACCIATORE

Dust 4 pounds of rabbit pieces with salt and freshly ground black pepper to taste, sprinkle with paprika, dredge in flour, shaking off any excess, and saute in 6 tbs. of salad oil until golden. Then remove to a plate for the time being, keeping it warm.

Add ½ lb. of mushrooms and a diced onion to the hot oil remaining in the frypan and sauté until the mushrooms have shriveled and the onions are soft and tan. Then

pour in a small can of tomatoes and ½ cup of good white wine. Bring to a simmer for 5 minutes, stirring occasionally, then return the rabbit and cook until it is warmed throughout.

Sprinkle in several sprigs of chopped parsley, a minced clove of garlic, and 1 tbs. of brandy. Cover and cook over low heat until tender. Dot with 2 tbs. of melted margarine and serve with steaming white rice or spaghetti. It'll lift the heart.

RABBIT WITH CASHEWS

Cashews are sold in quantity in the open markets of Mozambique, and it was during a recent visit to Lourenco Marques that we obtained such a quantity of the freshly salted variety that ever since they have played a prominent part in our wild-game cookery. Their provocative flavor goes particularly well with the delicate woodland taste of young rabbit. You'll need about 3 pounds of these latter, separated into serving pieces.

Brown them in 2 tbs. apiece of salad oil and margarine. Remove the meat and tilt the fat from your frypan. Scraping the pan to include the tasty browned bits, add 2 tbs. of good brandy and stir around diligently. Add the contents of a can of condensed cream of chicken soup, ½ cup sour cream, 1 tbs. chopped onion, ½ tsp. monosodium glutamate, ¼ tsp. apiece of parsley flakes and paprika, and ⅛ tsp. of freshly ground black pepper. Stirring, bring to a bubble.

Return the rabbit to the pan, cover, and simmer over low heat for 45 minutes or until nearly tender, stirring occasionally. Sprinkle in ½ cup of chopped cashews and keep bubbling 15 minutes more, uncovered so the sauce will thicken. Such a repast is as satisfying as a cascading run of Chopin.

RABBIT CONTINENTAL

Place 3 to 4 lbs. of rabbit, enough to feed four, in a roasting pan with a cup of canned tomatoes, ½ cup of good dry sherry, a large diced onion, a sliced clove of garlic, a tbs. of chicken fat or the equivalent of margarine, a tablespoon of seasoned salt, and freshly ground black pepper and paprika to taste, all of which have been well mixed.

Roast 2 hours uncovered in a moderate 325° oven, spooning the sauce over the rabbit every ¼ hour to keep the meat moist. This is good when the first blue shadows of evening lift across the dining room, keeping night at bay a little longer.



WE HAD JUST FINISHED LUNCH when I saw the deer. "Freeze," I whispered, and slowly picked up my bow and nocked an arrow.

THE BEST SEASON

By Jim Ciprich

THE YOUNG deer meandered slowly toward our position, completely unaware of our presence. Stopping every several yards to take a cautious look around and browse on the sweet clover beneath his hooves, the spike buck was now only 75 yards away and advancing slowly.

My buddy Ed Okruch and I had stopped for a lunch break on the brink of a small rise overlooking County Line Run. This was our second full day of hunting during the 1974 archery season, and as usual we were engaged in an almost ritualistic lunch period. We generally spend one to two hours feasting on goodies stowed in our rucksacks, while experiencing the silence and solitude Penn's Woods offers the hunter during the early season.

We had just finished eating and were spinning a few yarns when I casually glanced downstream and saw the telltale flicker of a whitetail's ear. I

whispered, "Freeze," slowly picked up my bow and nocked an arrow.

Being elevated above the stream bed beside which the deer was traveling was a decided advantage in our favor. Our position allowed small movements to go unnoticed by the young buck.

Closer he came, ever so slowly; 60, 50, 40 yards. The tension made my hand tremble. I was growing weary of holding the bow at half draw. Several times I brought my bow to full draw, but each time I relaxed to wait for a better shot. After what seemed like an eternity of motionless waiting, the young animal was now directly below me.

Slowly and silently I raised the 50-pound recurve into position, and began a long deliberate draw until I felt the arrow's fletching touch the familiar anchor points. Canting the bow slightly to avoid an overhanging hemlock branch,



I WAS STARTLED to see a large black bear coming to feed on acorns which had fallen from my stand tree! The blackie was advancing rapidly, so I elected to verbally assault him.

I rolled my finger from the bowstring and sent a Hilbre-tipped cedar shaft toward the deer. Anticipating the thud of a solid hit, I was, to say the least, surprised when I saw my arrow pass inches below my buck and administer the coup de grace to a large gray moss-covered rock, yards from where the deer once stood!

Although I failed to fill out my license tag during archery season, I did redeem myself later on with a fine fall turkey and a plump 6-point during the gun seasons!

The incident described above is what I refer to as a successful miss. Successful in the sense of being in such close contact with a creature of nature on his terms.

Bowhunting holds a lot for the hunter which no other season can offer. Animals at this time of year are relatively undisturbed by the presence of man and therefore can be viewed in a more natural state. Which brings to mind a day the previous year during which I was fortunate enough to see the

“big three” of Pennsylvania’s game animals.

The morning dawned in Slater Run as a foggy, rainy, cold day which somehow failed to dampen my spirits. Whenever I’m afield I’m always in a good state of mind, no matter how the weatherman tries to defeat me. I’d climbed to my precarious perch about midway up an ancient apple tree and after two hours fruitlessly watching the well-worn trail below me, I lowered myself down to stretch my numbed legs and partake of a cup of steaming coffee.

Over the Knoll

Deciding that stillhunting might be the order of the day, I got my gear together and moved out across a harvested oat field which adjoined my morning stand. About centered in the field was a knoll which obscured the other side; to save time, I chose to go over rather than around it. As stated earlier, it was quite foggy and visibility was poor. Descending the knoll, I saw movement about 40 yards in front of me.

I stopped in my tracks, as did a flock of 19 turkeys. After a second or two of indecision, a large bird in the rear of the flock let loose with a couple of sharp perts. Instantly, the entire flock was running into the protective covering of the woods.

I stillhunted for about an hour and a half, then decided to break for lunch. After eating and then relaxing for an hour, I again got my gear together and started out. The weather had cleared somewhat, at least the fog had lifted, and I walked silently through the woods full of expectation. Only 15 minutes had passed when a deer snorted and ran straight toward me. I quickly released an arrow at him, but missed.

Unexpectedly, the animal stopped dead in his tracks and offered me a standing broadside shot at 30 yards. Slowly removing another shaft from my bow quiver and nocking it, I came to full draw and peered down the arrow at a beautiful 8-point! I hate to say it, but buck fever got the best of me and once again I missed. I regained my com-

posure as the buck bounded away. For a short period I stood contemplating how unusual this day had been, then set out slowly for my evening stand, where, unknown to me, waited my third adventure of the day.

I reached my stand about 5 o'clock. The massive branches of the old oak made sitting quite comfortable, so I relaxed to enjoy being out in the woods. After about an hour, movement to my right caught my attention. Slowly looking around the big oak, I was startled to see a large black bear coming to feed on acorns which had newly fallen from my stand tree!

The blackie was advancing rapidly, so I elected to verbally assault him in order to halt his progress. The bear stopped, looked up at me, then turned back the way he'd come. Figuring I had better leave, I eased away from the oak. I'd taken only a few steps when I saw

the bear coming back, this time from another angle. He was bound and determined to fill up on those acorns and no camouflaged man with only a piece of string, a shaft of wood, and a sliver of steel was going to stop him! That was one fact of which I was in total agreement, so I ended my day with two hours of hunting time left.

So . . . I had an unusual day, one I will probably never equal, due to the fact that I'd purchased an archery license.

I've never been able to score with the bow, but nevertheless, my most memorable hunts have been while bowhunting. I'm looking forward to the coming season with great anticipation. Maybe my next shot will be successful, but if not, no matter. I feel privileged just being able to hunt in Kinzua Country during the best season—archery season!

Available Publications

The following publications are available from the Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. Prices quoted include taxes, handling and postage.

GONE FOR THE DAY, by Ned Smith. All of the outstanding columns and artwork which appeared under this title in **GAME NEWS** during a four-year period. Delightful reading for everyone. 216 pp., \$2.50.

MAMMALS OF PENNSYLVANIA, by J. Kenneth Douth, Caroline A. Heppenstall and John E. Guilday. Natural history of all the mammals found in this state. Many illustrations and photos. 286 pp., \$2.50.

THE WHITE-TAILED DEER IN PENNSYLVANIA, by Stanley E. Forbes. Detailed information on all phases of the whitetail's life. 40 pp., 50 cents.

BIRD AND MAMMAL CHARTS, by Ned Smith. Set 1 (20'' x 30'') \$2.00. Winter birds, marsh and water birds, waterfowl, birds of prey. Set 2 (20'' x 30'') \$2.00. Mammals of farm and woodlot, mammals of the mountains, birds of the forest, birds of field and garden. Set 3 (11'' x 14'') \$2.25. All eight charts listed in Set 1 and Set 2. Individual charts not sold in either size.

Let's Walk Through Schollards Run

By Joseph B. C. White



Schollards Run

TAKE ONE GRAY September day, add the brilliance of autumn colors and a warm rain and you have some of the basic ingredients for an unusual walk through the Pennsylvania Game Commission Schollards Run Waterfowl Refuge in Mercer County.

The abandoned roadbed of the former Western New York & Pennsylvania Railroad bisects this unique and beautiful area and is raised above the surrounding marshland like a dike.

Walking along this roadbed, one gains a striking view in all directions, and the growth of aspen, cherry and sumac at water's edge forms a natural screen so that feeding waterfowl can be observed easily.

On this September afternoon dark clouds scud across the sky before a northwest breeze that carries a threat of winter. Aspen leaves rattle ceaselessly, their flat leaf petioles grasping every change in the wind's movement.

Fall colors, just entering their brilliant stage, are vivid against some still-green trees and shrubs. The sumac's long compound leaves are blood red; dogwood leaves, turning curiously into semi-roll, are darker red and contrast with the tree's crimson fruit. Virginia creeper and red maple add their fiery shades; even the poison ivy wears bright orange-red to add to the spectacle.

On the marsh a scum of algae lies heavy on the water's surface, and feeding mallards skim through it like knives through a smooth lime pudding. A flock of mergansers wheels, chooses a likely feeding spot, and then settles, scooting among the cattails and marsh grasses, unconcerned as only creatures which know their habitat can be.

Red-winged blackbirds ride the dry reeds, swaying in the wind and chirping their short, rasping songs to one another.

In the distance, across a section of open water near a fallen tree half-sunk in the shore mud, a great blue heron rises from the water with an easy grace. It is at once beautiful and unbelievable that a bird so large and so slow in flight can gain purchase in the air. But rise it does, then

wheels in a steep, banking turn, apparently spying some more likely spot to seek dinner. The heron settles, folds its wings as a thoughtful traveler might close a suitcase, and then begins its long, striding search among the shallows.

In a neck of the pond two mallard hens feed on marsh plants, their tails in the air as they submerge their heads.

A marsh is many things, a web of community existence throbbing with life, where the dying become part of the living. The flat "chunk" of a green frog is the sound of a creature which has known no other place. This is home.

The old railroad bed, left untidy with jumbled ties and chunks of broken and rusty couplings, cleats and spikes, is no longer a source of interference in the "sound" picture of this scene. Now it is a corridor, lined with nature's paintings, vibrant with earth colors that escape the human artist. Traces of the roadbed fading before the growth of trees, shrubs and grasses, are all part of nature's inevitable reclamation.

Graceful and Orderly

A jay screams to announce the intrusion of the visitor and a sextet of young black ducks explodes from the water. They turn in formation, graceful and orderly even in the panic of escape.

In the center of the roadbed, faded lavender asters complement speckled orange blossoms of jewelweed, bright yellow mullein and goldenrod—all are reminders that summer is still holding on at the end of its scene, while autumn waits impatiently on the wind for its spectacular act on nature's stage.

Pine trees on an old mine spoil bank display a vigorous green, their numbers closing ranks to prove na-



Springfield Falls

ture's ability to hide and heal the scars that man has made. Here nature has everything in her corner and time is on her side.

Emerging from the marshland, the old roadbed swings through a deeper wooded section, thick with large aspen, maple and wild cherry trees. The cherry's golden yellow leaves flutter to the ground or fly crazy arcs in the wind.

Near the end of the walk, the trail emerges at Springfield Falls. Here water glistens on the black rocks, sliding faster and faster and then plunging in a spray of crystal droplets over the falls. Below the falls lie moss-covered hulks of fallen trees, arranged in a jumbled mass. The waters churn and then escape again, rushing beneath the branches of a great hemlock around a bend and on.

From the vibrant, life-filled marshlands, with muskrats cutting vees in the water, to skies filled with the sounds of wild ducks on the wing, this is the throbbing, ever-changing theater of nature. In the future it will remain the same, save for the movement of grateful visitors who view this natural epic under the Game Commission's care.

Trapping and Wildlife Management



Historical Notes

To fully understand the role of trapping, it is important to realize that it is an integral part of our North American heritage.

Native Indians and early European settlers used trapping as a means of survival, especially in the North. The Indian was a master trapper. He depended as much upon his ability with pitfalls, snares and deadfall traps, as he did upon his bow and spear for food, clothing and shelter. Effective use of his traps helped protect his limited crops from animals, for losing even a small part of a year's plantings was often disastrous in the face of a severe winter.

The arrival of the first settlers in the early 1600s heralded the beginning of com-

mercial trapping in North America. At first, the settlers, like the Indians, trapped mainly for food, clothing and crop protection, although trading for furs with the Indians was among their earliest commercial ventures. Before long, the commercial potential of the fur market brought keen competition between British and French, resulting in the creation of two major fur companies, Hudson Bay Co. and Revillon Frères.

There was a ready market for all the furs trappers could deliver. To meet this demand, trappers pushed deeper into the wilderness in search of better trapping areas. Behind the trappers came the settlers, pushing the wilderness farther and farther west in their hunger for land.

In the early years, trappers used the techniques of the Indians, chiefly snares and deadfalls which involved tremendous amounts of time and labor and were inefficient, often failing to hold the animal. In 1823, Sewell Newhouse revolutionized trapping with his perfection of the leg-hold trap. This added greatly to the trapper's effectiveness since it could be used for long-legged animals such as the wolf and fox as well as for beaver, muskrat, mink, otter and other short-legged animals.

Trapping in Today's World

While trapping techniques have changed very little since that time, traps and the people who use them have changed considerably. The diversity of lifestyles among modern trappers may be attributed to the fact that today few people trap as the sole source of their income. People from all walks of life—Indians, farmers, policemen, postmen, lumbermen, guides, game and fire wardens—are among present-day trappers. In 1972-73, the state of Louisiana alone reported a fur harvest valued at more than \$10.7 million distributed among an estimated 7000 trappers. For many, the extra income from a trapline is often a buffer against hardship. To others, it may be a means of paying for an education.

A large trapline requires hours of plain hard work. Yet, for other trappers it is a form of recreation. For them, it's an opportunity to be outdoors and to observe animal behavior at close range.

But many trappers do so out of absolute necessity. To the farmer, rancher, or orchardist, his very livelihood may depend

on his efficient use of traps to control depredating wildlife. Even today, the value of crops and livestock lost to wildlife is incalculable. For instance, foxes and weasels raid hen and turkey houses; bobcats and coyotes kill young pigs and lambs; raccoons raid cornfields; rats, mice and raccoons steal stored grain crops; rabbits girdle fruit trees; and muskrats and nutria riddle dams and dikes. Most of these problems can be controlled by trapping.

Free-ranging livestock are particularly vulnerable to predation, especially during severe winter conditions when food is less plentiful and their movement is hampered by snow. Also, during the denning season, the female and young of predator species require much more food, hence the chance of greater livestock losses.

Claims for coyote-destroyed livestock amount to millions of dollars each year. In states such as Oklahoma, Kansas, Missouri, Montana, Texas, Colorado and Wyoming, predation is often blamed for the decline in sheep herding in spite of today's high wool and lamb prices. The Wall Street Journal (1/21/74), cited figures from the Wyoming Crop and Livestock Reporting Service indicating that, in 1972, in that state alone predation claims covered 117,800 sheep valued at \$2.2 million.

A 1974 study initiated by the University of Montana and funded by the U. S. Fish & Wildlife Service, recorded all sheep losses due to predators and natural mortality. About 2000 unprotected sheep were exposed to predation during the March to October period. Coyotes killed 429. Of these, 364 were lambs—85% of the total deaths. Two sheep were killed by golden eagles, two by feral dogs, and eleven more wounded by the dogs. The researchers concluded, "What we have shown is that coyotes, under certain circumstances, do kill sheep."

Livestock is usually the farmer's largest single investment after land and equipment. Consequently, losses to predatory animals can be a serious financial blow.

Poultry similarly are subject to predation by foxes, feral cats and dogs, etc. No method of control is completely successful, but trapping is unique among all predator control procedures because of its selectivity, enabling the capture of a specific target animal and the release of unwanted animals. In many circumstances, trapping is the only efficient and effective means of limiting these losses and is usually more desirable than the use of non-selective toxic chemicals.

Trapping is also an important tool of wildlife research. Natural history studies

frequently involve the trapping of individual animals so they can be examined, aged, sexed, weighed, tagged and released unharmed. Retrapping these same animals at a later date provides invaluable information on their movements and condition. Similarly, retrapping is often used in studies of the ranges of individual animals and for determining animal population density. From such data, wildlife managers can construct the social structure of an animal population including age distribution, reproductive success, percentage survival of the young, and the nutritional condition of breeding females. Trapping is also essential in conducting disease surveillance programs that directly relate to human health and the welfare of domestic livestock and wildlife alike.

Control of local wildlife populations is an important consideration in many land management plans. Aside from preventing or controlling animal damage to stored grains, field crops and livestock, trapping often is the only means of controlling damage to the land itself. For example, woodchucks undermine fencerows and their burrows are a hazard to farm machinery and livestock. Muskrats burrow into irrigation systems and the dikes of water impoundments such as rice fields and fire protection ponds, weakening them to the point of failure or necessitating constant repair. They will also ravage a marsh, destroying their own habitat. Beaver dams produce flooding that can destroy acres of valuable timber or crops. Such dams can change a swift-flowing stream into a warm stagnant pool.

To ensure that traps are used properly, states such as Missouri, South Dakota and Kansas, and the province of Alberta, em-

ALMOST HALF a million muskrats taken by Pennsylvania trappers in the 1974-75 marketing year brought them \$1,264,499 from dealers. Total pelt value of all Pennsylvania species in this period was almost \$3,000,000.



ploy "extension" trappers to teach the art of trapping to landowners, clubs, school groups and others interested in trapping and wildlife management. Extension trappers are also called on to remove specific problem animals as well as to assist health officials in removing surplus animals that could pose hazards to human health.

The Science of Wildlife Management

Wildlife management involves so many of the science and management techniques that it is taught as a "major" in over 60 colleges and universities. It is here that many of the managers of our continent's wildlife resources have been trained. The awakened interest in our environment during the last few years has helped to maintain the flow of highly motivated young people into this everbroadening field.

The professional wildlife manager has progressed to such a level that when it is desirable to restore a species, he can do so, provided suitable habitat is available. He has learned to control animal numbers, in today's world, when nature cannot. Good management has restored the wild turkey to huntable numbers in many states since World War II. Beaver, deer and the pronghorn antelope are other examples of the restoration of species that were non-existent in many parts of their original range less than fifty years ago.

On the other hand, ignoring the basic principles of wildlife management led to a serious overpopulation of mule deer on the Kaibab Plateau in Arizona, elk in Yellowstone National Park and moose on Isle Royale National Park. Each was followed by massive dieoffs and accompanied by a disastrous destruction of browse and forage plants that required years to recover. Each of these catastrophes happened before wildlife management principles and practices had been developed to their present level. It is unfortunate that the knowledge and achievements of wildlife managers, the day-by-day routine of protection and conservation, are seldom brought to public light for their true value.

Paying for Conservation

Present-day wildlife management practices include the establishment of refuges and wildlife management areas that protect habitat vital to a wide variety of species. Such practices also include programs to encourage landowners to maintain and improve habitat and the gathering

of information about wild populations on which hunting and trapping regulations are based.

These activities cost money. Currently, the \$242 million paid by hunters, trappers and fishermen for annual license fees, tags and permits, are the major source of funds that support state and provincial fish and wildlife conservation agencies. In addition, well over \$2.6 billion have been contributed by hunters and trappers for wildlife conservation in the past 50 years. Many of these wildlife agencies receive little if any financial support from their state's or province's general fund and have only the money paid by outdoorsmen to use in managing and protecting the continent's wildlife resources.

The Need for Disease Control

Controlling or limiting the spread of wildlife diseases is essential to any wildlife management program. The more crowded animals are, the more likely is the development and transmission of disease. Of particular concern are diseases that can be transmitted to man. Rabies, tularemia, plague, Rocky Mountain spotted fever, and leptospirosis are among the most dangerous of these. Since 1959, two-thirds of known rabies cases have been in wild animals.

Although crash programs involving trapping of a specific wildlife species have not proven to be effective in stopping an outbreak of rabies, annual harvest of the surplus has proven to be very important in preventing an epidemic of this dreaded viral disease. In West Virginia, in 1970, when the incidence of rabies was high, about 1800 fox trappings were reported. In 1973, when there was a very low incidence of rabies, more than 6700 foxes were taken, an increase of nearly 400 percent. Wildlife biologists believe this great decline in the incidence of rabies in West Virginia was directly related to the increased fox harvests during the same period.

Among the diseases not transmittable to man but which endanger wildlife populations are sarcoptic mange, a disease of furbearers caused by a mite living in the skin, and distemper, a viral disease that breaks out when populations reach critical densities. A multitude of parasitic infections also continually threaten overly populated wildlife species. A well managed harvesting program removes excess animals, leaving those remaining healthier and more productive.

A trapper who has seen the cruelty of disease and parasites among wild animals vividly testifies to the ravages:

"Have they seen the effects of starvation and disease? Did they see a starving deer, its head so weak it cannot right itself? Have they seen a fox running blindly into fences, stumps and such, suffering from mange disease with scabs and hairless tail and the stench of a sickened animal? Men fear mange, for it can sicken livestock and domestic animals.

"What of the rabid skunk or fox? Have they had the chance to watch their dog being killed because he was bitten by a rabid animal? I have lost a dog because of just this! Let them watch a child go through the agony of 13 or 14 rabies shots because he thought the animal was tame and friendly. Have they walked the banks of rivers and creeks or through the marshes and counted one dead muskrat after another tortured to death with tularemia, which can also be transmitted to man? This is a waste! As populations of various species increase, this is what will take place. Man can do a good job of maintaining the balance of population according to habitat. We have proven this."

Research for agricultural medicine requires the use of both wild and domesticated animals. By eliminating the use of the trap, it would become far more difficult to obtain wild animals for medical research. Gerald Walkup, President of the National Trappers Association and a histologist at the University of Iowa Department of Agricultural Medicine, states, "I

have trapped wild animals for leptospirosis research in situations where people had picked up the disease while swimming in a creek or pond. We could not have pinned down the point of contamination had we not used leg-hold traps."

The Problem of Habitat

Trapping and hunting have been blamed for the decimation of America's original wildlife populations. There is no disputing the fact that unrestricted hunting nearly exterminated the buffalo and that unregulated trapping brought the beaver close to extinction in the early 1800s. But both of these events occurred long before wildlife was brought under strict state and federal control. Dr. John L. Schmidt, Extension Wildlife Specialist, Colorado State University, states that regulated harvest, i.e., hunting seasons based on scientific data, has never caused a single species to be added to the list of rare and endangered species.

The major problem today is not overexploitation but the quantity and quality of habitat available to wild species. The National Wildlife Federation states that wildlife habitat is being destroyed at the rate of 3500 acres a day to provide more room for humans. They estimate that approximately 34 million acres of rural land will disappear by the year 2000.

The buffalo has been saved from extinc-

MODERN-DAY TRAPPERS COME FROM all walks of life—farmers, policemen, postmen, lumbermen, teachers—and schoolboys, as shown here.





BEAVER TRAPPING helped to open up large parts of this continent, had a significant effect upon the overall economy. This large rodent is still a prime objective of trappers.

tion and approximately 25,000 now occupy protected habitat in parks, refuges and reservations. Its number could be greatly increased within a few years—but only at the expense of the livestock industry whose cattle and sheep occupy the former buffalo range.

Beaver can now be found in all states except Hawaii. In some localities they have increased to the point that they are considered pests by farmers and foresters. Although the restoration of the beaver was accelerated by deliberate restocking, this effort could not have succeeded if abundant unoccupied beaver habitat did not exist to receive the transplanted animals. The reversion of former farmland to woodland and forest resulting from changes in land use made the restoration of the beaver feasible.

Some of the best publicized endangered species, such as the black-footed ferret, whooping crane, California condor, ivory-billed woodpecker and others, have never been subjected to more than incidental trapping or shooting. Yet all stand on the knife-edge of extinction because each requires a highly specialized type of habitat that is in exceedingly short supply.

On a continental basis, the quality and quantity of habitat for any species is governed by the general pattern of land use and by other human population pressures. Locally, however, habitat improvement can greatly increase the

abundance and variety of wild populations. Wildlife can cope with predation, animal and human, but it cannot cope with the loss of habitat.

Trapping as a Management Tool

Because of reduced habitat, controlling wildlife populations is of increasing importance. Trapping provides the only logical means of controlling certain species of wildlife and if carried out in accordance with state, provincial, and federal regulations, does not adversely affect the resource. For example, in Ohio, the Department of Natural Resources, Division of Wildlife, reports that muskrats comprise about 68 percent and raccoons about 27 percent of the pelts taken annually. Thus, the two together make up about 95 percent of the harvest. Yet neither species is declining. In fact, the raccoon population has been increasing in recent years since trapping is regulated by law to take only that portion of the population not needed by each species to maintain optimum breeding numbers.

Under scientific management that incorporates biologically sound regulations and active enforcement of laws governing trapping, no furbearer or predator population has been eliminated by annual harvest. Each spring, the natural reproductive capacities of animals such as muskrats, raccoons, beaver, mink, opossum, fox, coyote, skunk, badger and weasel, produce surpluses that ensure winter survival of the population. For instance, muskrats have the natural capacity to reproduce at a rate exceeding 50 to 80 percent annually. This means that for every 100 animals before breeding season, there will be 150–180 by the end of the season.

Left to her own devices, nature will take her own harvest, far more devastating and complete than the most skilled trapper, and inflicting more pain, prolonged suffering and misery than the most devout anti-trapper would care to witness. Not the comparatively swift death of the trapped target animal, but the slow death of weeks from starvation and disease inflicted by nature herself. With man's continual encroachment upon once wild lands, there is no way uncontrolled numbers of surplus animals can survive without nature taking this toll. It is a principle of animal population dynamics that wildlife cannot be stockpiled for long. An increase in one species may adversely affect other wild creatures with which it competes for space or food.

Scientific management ensures that only surplus animals are taken, thus preventing inroads into breeding populations and helping ensure that the survivors are more healthy and efficient breeders. With the exception of situations involving animal damage control, trapping is restricted by law to a few months in fall and winter before the breeding season. Under such regulations, wildlife populations constitute a renewable resource, a resource unlike coal or oil, which, once removed, can never be replaced.

Under certain circumstances, high animal populations can damage the habitat to such a degree that it may take years to recover. This is especially true of muskrats and nutria which, in overabundant numbers, can devastate the plant life of a marsh, destroying its value to waterfowl as well as themselves.

While hunting is the best method of controlling deer and other large animals, it is extremely inefficient for controlling smaller animals such as muskrats and nutria. Professional wildlife biologists agree that well-managed traplines are the most effective tools available for this purpose.

Types of Traps

As already pointed out, the word "trap" encompasses a multitude of devices. Basically, however, they can be divided into two classes—those that kill the trapped animal and those that restrain the animal.

"Killer" traps include snares, deadfalls, and the Conibear® trap. The first two are holdovers from the past and are seldom used today.

Conibear traps consist of two square metal frames connected by a spring. An animal walking into the trap releases a trigger which causes the frames to snap on its neck and back, killing it. Conibear traps are most effective when used for small animals such as muskrat, mink, skunk, weasel, beaver, raccoon, etc.

"Restraint" or "live" traps include cage and leg-hold traps. They serve many purposes, from scientific research to the capture of animals for relocation to new areas. Among the most familiar cage traps is the Tender Trap®. However, like the Conibear traps, these traps are ineffective for wary long-legged animals such as coyote, fox, wolf and bobcat. They are used mostly in urban areas to catch animals such as skunks, raccoons, cats, squirrels, etc., which raid garbage cans, vegetable and flower gardens, and cause property damage.



TRAPPING IS ONE of the few activities left which permit a person to become directly involved with wildlife and nature, to learn first-hand what the outdoors is really like.

The "live" trap most widely used today is the leg-hold trap, as it can be used in many ways for both short- and long-legged animals and gives the trapper the option of releasing, usually without permanent damage, an animal he does not want. Killer traps (and poisons) do not provide such an option and should not be used in areas accessible to children and pets.

Leg-hold traps can be set on land or in water. When properly anchored in water, they can be used as a killer trap, for the animal is quickly drowned. They can be set anywhere a Conibear can be used. On land, they can be set near a predator's known target such as a hen house, sheep pen, or on animal trails. They can be hidden in water and under leaves or dirt, and are, therefore, effective in catching the most wary long- or short-legged animals on land or in water.

This particular type of trap has also become the center of a controversy because it is allegedly "not humane," even though authorities such as the Missouri Department of Conservation state that leg-hold traps do not often inflict permanent damage on the trapped animal. Selected bizarre photographs have been used in anti-trapping literature to press home the allegation that leghold traps permit trapped animals to twist and gnaw themselves

loose, leaving the lower part of their foot in the trap. While such incidents may occur, they are infrequent and are usually the result of poor trapping techniques on the part of a minority of trappers.

In a recent study done by Dr. Ward Stone, a pathologist with the New York State Department of Environmental Conservation, 200 foxes were trapped in leg-hold traps, marked and released. Proof was conclusive that there was not one instance of permanent debilitating injury to the foxes.

No one knows better than experienced trappers which traps work best under given conditions. Ronald W. Schmeling of the Wisconsin Conservation Congress says:

"No other type of trap (than leg-hold trap) to date can successfully and consistently be used under almost all conditions and placements. If this were not true, the demand for other types of traps would have made the leg-hold trap obsolete. This is not the case. The trapper knows a well-placed leg-hold trap reduces the risk of cruelty to a minimum. The trapper also knows that he must tend his traps daily, for a sprung trap will not be successful tomorrow. It must be set every day to work, for it cannot work with its jaws closed."

It may appear to some that the banning of the leg-hold trap would be a good conservation measure. This is not the case and, in fact, would actually increase the inhumanity to animals by aggravating their starvation and disease problems caused by a shrinking habitat.

Improving the Leg-Hold Trap

Modifications to the leg-hold trap have continually been made since its introduction. For example, traps with offset jaws are now available for the capture of larger animals. In these traps, the space between the jaws when the trap is closed reduces pressure on the animal's leg. Such traps also permit smaller birds and non-target animals to escape. However, the offset cannot be so great as to allow the target animal to escape.

Critics of leg-hold traps often refer to traps with teeth. However, these traps are now prohibited in some states. Most trap manufacturers support such legislation and no longer make such traps.

Another modification has been padded jaws. However, these have generally been less than successful as the pads retain man's scent and become slippery when wet, enabling the animal to escape.

According to the Canadian Federal/Provincial Committee for the Development of a Humane Trap, almost 4000 patents on traps or trapping devices have been issued by the U.S. and Canadian Patent Offices in the past 100 years. Such activity indicates the interest in and concern for better traps. Trap manufacturers are currently researching new and different traps, and development work is continuing.

Better Trapping Know-How

It is the careless trapper, not the trap, who causes much of the suffering which many people unfortunately believe is the rule rather than the exception. While much is being done to improve traps, steps are also being taken to further upgrade the trapping knowhow of every trapper going afield today and to make certain he or she complies with the laws governing trapping. Some states already require trapping instruction before licensing first-time trappers, similar to the hunter safety courses now mandatory in many states. Most trap manufacturers strongly endorse such requirements and support their rapid adoption by other states.

Some trapper associations are now insisting on a trapper's ethic, as a personal

GAME PROTECTOR checks metal tag attached to trap showing name and address of owner. Tag is required by Pennsylvania game law, which also states that traps must be visited at least once every 36 hours.



and professional standard for their members. Many have established formal training courses for their members. Rather than merely being a matter of agreeing to a policy, these courses are organized, planned training programs of book and field work. Most important, trappers and their associations are cooperating with wildlife regulatory agencies to educate the public to the benefits and necessity of proper trapping.

Conclusion

Today, more than ever before, knowledgeable people recognize the role trapping plays in wildlife research and management and that trapping is a legitimate use of a renewable wildlife resource. The role that trapping plays in wildlife research and management, population dynamics and the nation's economy must be placed in perspective with other uses of North America's resources.

On the other hand, there are some opponents to trapping, with emphasis on the leg-hold trap, whose means and expenditures have raised questions relating to professional wildlife management. It is ironic they have not responsibly concerned themselves with the facts. Their use of emotional advertising in magazines and newspapers and the not-so-expert opinions of celebrities on TV talk shows have enabled them to create a following among those who have had little actual contact and experience with wildlife. These people know little of the situation about which they are so vocal. However, this lack of knowledge does not prevent them from espousing a point of view that is dangerously extreme and a definite threat to the wellbeing of the very animals they are striving to protect.

According to Congressman John D. Dingell, long-time Chairman of the House Subcommittee on Fisheries and Wildlife Conservation, attempts to turn committee hearings into anti-hunting carnivals have resulted in the stalling of "a significant number of major pieces of conservation legislation during the Congress."

There are many areas in wildlife management that are not particularly pleasant and perhaps trapping is one of them. However, as has been pointed out, trapping, and the leg-hold trap in particular, is the only effective management tool available to catch, take or control many species. Cage traps are too cumbersome, and in many cases totally ineffective. For example, the fox, which is a problem animal, rarely can be taken in a

cage trap. Large size body gripping killer traps have many limitations. The fact of the matter is, there is no practical and total substitute for the leg-hold trap.

People who fail to recognize the need for the leg-hold trap and the adversities that would result if its use were prohibited, usually live in cities far from the fear which pervades a rural community when the gray fox population has been stricken by rabies. They have never suffered crop or poultry loss, never had a farm pond drained by burrowing muskrats, nor do they have any knowledge of predator populations and their effect upon the nests of game and song birds, young rabbits, waterfowl, shore birds and other forms of desirable wildlife.

If their only interest is pain and suffering, then let them examine that subject from a different angle, natural predation.

There is no concern for life among wild birds and animals. They do not live in perfect harmony as some self-proclaimed "experts" would want us to believe, but rather all prey species live in constant fear of the predator. Foxes will search for a nest of young rabbits, eat some, and carry others to their den to feed their young. Opossums and raccoons search the trees for eggs and young of song birds.

Loot and plunder is the predator's way of life. If the anti-trappers ever have the opportunity to view an incident of predation, would they have a sympathetic feeling for the wildlife species being eaten or would their concern still remain with the possibility that someday that same predator might be taken in a trap?

Unfortunately, critics of trapping express more concern over the quality of death rather than the quality of life. Any surplus of wildlife that is not harvested by man will be subjected to the cruelest controls inflicted by nature to restore a more normal population level. If this were not so, unwanted and unharvested species would have covered the earth long ago. To see animals dying a slow and lingering death resulting from a communicable disease, or to view the evidence of death and destruction of our more desirable wildlife creatures, is no more desirable than to see an animal in a trap.

Traps, and the leg-hold trap in particular, are a vital tool of wildlife management today. To eliminate them would assure the decline of many species through starvation, rapid disease dissemination, and fierce competition for the limited habitat. Neither wildlife, agriculture, nor human health interests of North America can afford such folly.

PENNSYLVANIA 1776

Buffalo in Pennsylvania? That seems unlikely to most people. After all, buffalo, like Indians, were creatures of the western frontier. But in 1776 Pennsylvania was still part of that frontier.

The romantic link between the American Indian and the buffalo preserves, like many myths, more than

horn spread of about ten feet. But in Pennsylvania bison were smaller, probably very similar to the woodland bison that still survive in Canada, and not too different from the European wisent that live in isolated forest areas of eastern Europe.

Evidence for the presence of bison in

Buffalo in Pennsylvania

By Robert B. Eckhardt

a little truth. It is not possible to fix precisely the time that either entered this continent, but all evidence indicates that both came during the geological epoch known as the Pleistocene, or ice age. This lasted from about three million to ten thousand years ago. Within this timespan there were alternating climatic phases. During colder periods enormous amounts of water which evaporated from the oceans fell as snow. Sea levels dropped as glacial ice sheets expanded from mountain tops and the poles. In the north the shallow Bering Sea became a land bridge, which ancestors of the Indians crossed sometime within the last forty thousand years. Like other Americans they had evolved in the Old World, acquiring there all important details of their present appearance before spreading through North and South America.

Buffalo arrived here somewhat earlier. The term buffalo is incorrectly applied to these massive herd-living horned animals of North America; really they are bison. But as the confusion of names suggests, bison are closely related to the true buffaloes of southern Asia and Africa, as well as to the domestic cattle descended from them. Bison continued to evolve as they spread across this continent from Atlantic to Pacific and from Florida to Canada. In the plains region they reached gigantic size, some having a

Pennsylvania a century ago is provided chiefly by historical data. Historian Gail Gibson has noted several references to buffalo in Pennsylvania during the eighteenth century. Arriving at "Lick Creek" (now Lick Run, southeast of Uniontown), an officer in Braddock's army recorded in his diary in 1755 what he had been told was the meaning of the name: "This Creek takes its Name from a lick being there, where Deer, Buffaloes & Bears come to lick the Salt out of the Swamp." A British army engineer seems to verify this explanation in his journal. Describing his experiences in this same area, he notes that game "is exceeding Plenty of all Kinds hereabouts, consisting of Buffaloes, Elchs, Deer—Bear, and innumerable Quantity of wild Turkeys—of which last, we were so satiated that the Hunters would kill no more." A third reference to buffalo in the same general area is made in a letter from Fort Cumberland, alleging that a group of men attacked some Indians who "were barbecuing a Buffaloe, not thinking of danger." In addition to such references, place names provide circumstantial evidence for the existence of buffalo in Pennsylvania. When these occur sporadically they prove little about the distribution of the creatures to which they refer. For example, Wayne County has a town called Angels although no documented sightings of celestial beings. But there are

many buffalo place names on present maps, and even more spread through older maps, journals, and histories. Howell's A Map of the State of Pennsylvania (1792) includes Buffalo Creeks in what are now Washington, Armstrong, and Perry counties; Buffalo Runs in Bedford and Centre counties; Buffalo Lick Creek in Somerset County; and Buffalo Hill in Perry County.

Those who question the assumption that buffalo once roamed Pennsylvania point out that there is no documented evidence that skeletal remains of the animal have ever been identified in the state. However, this is not really surprising. Bison would never have been as numerous in woodland areas as on the open plains. And the bones of animals that die in a forest do not usually last very long. Rats, squirrels, and porcupines gnaw bones for the mineral salts they contain. The more abundant moisture and acid soils typical of forests hasten the decomposition of what fragments the rodents leave. And of the few bones that might survive these ravages, most would be similar enough to comparable parts of large oxen to pass unnoticed.

Pennsylvania's bison are gone now.



Pennsylvania bison

Like the Indians some died quietly, others were killed, and the rest moved west with the advancing frontier.

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SEPTEMBER MEANS HEAT AND HUMIDITY, relentless swarms of gnats, itchy dust, glaring sun—and doves. And those gray streakers are enough to make any hunter happy.

THE DAILY DOZEN

By John Plowman, Jr.

IF YOU HAD told me three years ago there was no mystery to hunting doves, I wouldn't have challenged the comment. Up to that time, my experiences with the birds were limited to casual observations of their visits to the backyard feeder. No one in my family hunted them either, so there was no breaking-in period during youth.

But my outlook slowly changed as various friends related tales of sensational pass shooting at a worthy game bird—one that was abundantly available and which made outstanding table fare. Truly, this sport would be a change from the early fall fishing that had been my main outdoor interest, and I was willing to take the chance.

September now means the hour has arrived to dig out the tattered game vest, find all the left-over shotgun shells, and begin talking very kindly to my Labrador retriever, Jo. From my actions, Jo soon figures out that before long we'll be heading afield again after those crazy birds that her boss can't hit too well. There will be the expected

heat and humidity, plus other amenities such as relentless swarms of gnats endlessly dancing before the eyes, itchy dust, glaring sun, and never enough of a breeze to make life bearable.

Indian Summer weather is a stark contrast for the deer hunter who's still trying to thaw out his feet from last December. Really, dove season still seems to be an unusual time of year to hunt, considering that the lawn still needs attention and most folks aren't ready to give up summertime activities. It gives me a strange feeling to collect such unusual hunting paraphernalia as ice water for the Lab and maybe the hunter, insect repellent, a folding chair, sunglasses and even sunburn lotion. Add to these the necessities—several boxes of shells, the shotgun and maybe a lunch—and I'm ready. 'Tis better to have and not need, than otherwise.

Our first-time-out pass shooting was like any other initiation ritual in hunting. There's much to learn and observe, with the fitting-out and polishing to

come with experience. Urging me on toward the new—for me—sport, friends guided me through the fields and poison ivy thickets to a fencerow. This was to be a good location for launching another outdoor interest. The Winchester was readied and loaded with three number 8 shells, as we scanned the skies with no small amount of anticipation. Jo proved her value on this initial encounter by spotting the first doves and tipping us off by a pause in her overheated panting.

This flock came along the tree-line, but we did more watching than shooting. I felt I had to get adjusted to this gradually. Even at this point, it was apparent that I've been missing out on a lot of fun for many years. This trip was made over at my Aunt Elsie's farm, where many times we had taken walks in the fields that produced doves flushing ahead. Then, we took no mind to them, but now these birds took on an entirely new meaning. This feeling would become one of respect in due course.

While the sun blazed down, the birds came over with regularity, as singles, or in pairs, and sometimes in larger flocks which kept changing course erratically. Whether from spotting hunters or just plain orneriness, birds heading straight at us would suddenly veer off 90 degrees. I soon figured I'd had enough training, it was time to get into action, so I lined up on the next arrivals that appeared over the trees. With predictable results. As you doubtless have guessed, it takes some doing to accustom a duck hunter/pheasant fan to dove shooting. A lot of ammunition went up the tube, with the most prevalent problem being familiar—shooting behind.

As time went on, I made corrections in style and temperament. Eventually I scored on one and scared the daylights out of its buddy. The dove I hit plummeted down, trailing feathers that drifted from the sky. It fell nearby in the high grass—which is how I learned all about where *not* to drop them!

In most upland hunting, you normally just mark the spot where the bird lands, proceed to that location and fetch it. Not this time! Doves just

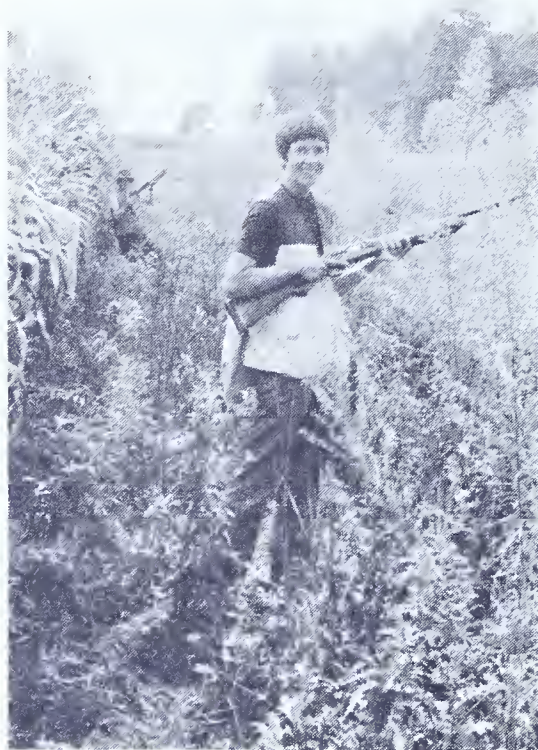
disappear once they hit in that type of cover. Without the dog, I would not have recovered No. One at all. Jo located it some 20 feet from where I was looking. Doves may not have much scent that a dog can pick up, as Jo had to make a wide sweep before making the discovery. She was just as proud to bring this one back as if it had been a big ringneck or mallard, and that's what counts.

Arrow Down

These migrators fall to earth in varied fashion once they're hit. Some plunge like an arrow down through the weeds to ground level and stay put. Others simply flutter down in a slowly descending pattern. Those birds that are superficially hit may continue out of sight, while less ambitious specimens head for the nearest tree and take stock of the situation. Many act like they're surely in the bag, but I think they are actually only darting and diving through the shot pattern!

Old reliable Jo also learned a few canine pointers. Wounded doves are prone to running off through dense cover like any rabbit or ringneck. If not hit too hard, they can make surprising speed, and being small and streamlined, can escape by moving underneath the thick stuff. When downed in a cornfield, it's the same story—across or with the rows, while the hunter and dog has to avoid knocking any stalks down. Dove feathers are also something to reckon with, since they come out easily. The dog has to contend with these, in addition to the heat and infrequent watering breaks. A little help from the hunter can relieve most of this annoyance.

You don't go out just anywhere and expect a bonanza on doves. Food supply, suitable cover and the bird's own distinctive habits must be considered. They love corn and other grains, preferably picked. Another alternative is choosing weed and grass fields. These should be somewhat open, as doves prefer areas with good visibility. They sometimes fly around with no apparent motive, at other times follow defined routes to feeding or roosting habitat. These aren't great revelations



CONCEALED in high weeds near standing corn, Dot Kron and son Mike, of Mechanicsburg, patiently await the next flight of passing doves. Daily dozen is hard to come by.

to most dove hunters, but to deviate from such ground rules may lead to a mediocre result.

Being positioned along tree lines or fencerows has its benefits. The hunter has a few things in his favor here: concealment from approaching birds until they are in range, better visibility, and shade. Some dove stalkers head for the cornfields, but in September these are unharvested and thus are off limits. Neither should anyone shoot at doves perched on power lines. Not only is this unsporting, it's also destructive. Hunters acting so thoughtlessly provide powerful ammunition to the anti-hunting groups.

Those of us who go out for doves often find we've inadvertently posted too many people close together. This is a problem constantly found near feeding areas or roosts. The shooting can be erratic when the birds really get flying and zones of fire change repeatedly. Wearing fluorescent orange isn't enough in this case, and the thinking hunter will stay in one place just so all

others will mark that spot in mind and deeds. Camouflage seems to be the big thing in dove hunting clothes, but it's more important to be seen by other hunters than by the game. I don't think the birds really care what is worn anyway. If just the basic hunting skills are combined with common sense, the game bag shouldn't be flat!

"Walking them up" is yet another form of making contact with these great birds. Flushing them in open grain fields often gives safe and challenging sport. The hunters travel abreast, each covering his natural zone of fire, and the birds are attended in good order. This is essentially the same method that works in small game season. It's also a change from standing around waiting for the incomers, and sharpens the shooting technique well in advance of pheasant time.

Pennsylvania's dove shooting hours commence at noon. These birds are so plentiful that the daily bag limit has been 12 for as long as I can recall. To actually harvest that number on an afternoon's trip is another story, for most of us. To just get a few usually requires many shells, and the hunter with a one-for-two or even one-for-three ratio has paid his dues through lots of practice and time afield.

12-Gauge Full Choke

You'll see all kinds and gauges of shotguns among the fraternity. However, the most popular combination among my companions is the 12-gauge matched to a full choke barrel. Often the shooting conditions would seem better suited for a skeet or other open choke, but overall I believe you'll wind up with more birds in the bag using the tighter tube. Small shot works best. It gives the dense patterns needed for these small birds and has adequate penetration on them.

For more sophisticated dove hunters, lifelike decoys are commercially available. They can be positioned in trees or on open areas where doves are known to congregate. Dove calls are manufactured too, and imitate those sad notes that predict rain on the way. I remember how the late Paul Failor made dove calls from beverage

cans. They really brought the birds around for a look.

Doves have few if any equals in the wild bird world when it comes to reproduction. These birds have been known to produce five broods in the course of a nesting season. They set up housekeeping in trees, preferring evergreens and the like that offer concealment from nosey cats and other predators. There's hardly any chance that overhunting will become a factor in their future.

During our open season, migrating birds move in and mix with the locals. You'll find obviously younger birds harvested along with the adults. There are days when it seems they all went south, with nary a bird to keep up interest, but actually many winter over in the Keystone State. You can usually see a few on any winter day moving about.

Many dove hunters clean their birds in the field, during the slack periods between shots. This is a good idea from the standpoint of cooling out the meat, but it's vitally important not to leave piles of feathers on the farmer's fields. Take along a paper bag, such as those used for groceries at the supermarket, deposit all waste in it, and take it home for proper disposal. It's a fine idea to take a small ice chest along in the car. Besides keeping water or soft drinks cool for your refreshment, it quickly cools your doves and keeps them fresh.

Bicentennial Pennsylvania



So your children can tell
their children

If you want to keep your doves awhile before cooking, try placing the meat in a clean quart or half-gallon milk carton. Fill it with water and freeze the whole works. Encased in ice, there's no deterioration of the meat, no freezer burn.

The dove hunting areas begin to yield to small game hunters by the end of October, and interest in these birds all but ends. Emphasis shifts to the more celebrated ringnecks and other quarry, with scant attention paid to the deeds and doubles so recently experienced. But to me, dove hunting memories are just as vivid as those of any game, and share top billing with the best of grouse or waterfowl trips. It's good to recall the days afield, the friends and events, who took part in the hunt for the daily dozen.

Help Asked on Shorebird Study

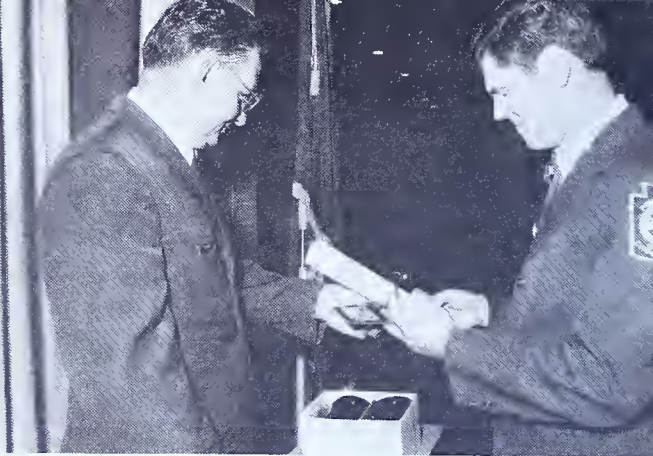
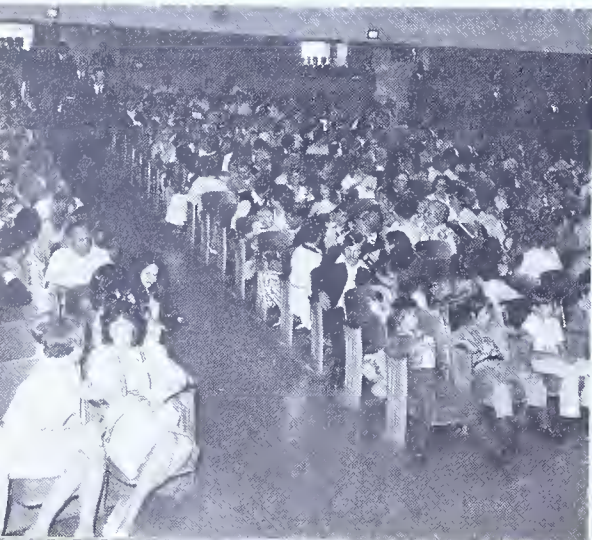
Pennsylvanians have again been asked to cooperate with the Canadian Wildlife Service in a study of migrating shorebirds. The birds, banded and color-marked in James Bay, travel from Arctic breeding grounds to warmer wintering areas, and biologists are trying to find out just when and where they pass through. Both shore and inland wetlands serve as concentration points for the resting travelers. Brian Harrington of Massachusetts' Manomet Bird Observatory, director of a related shorebird census, remarked that last year's reports from Pennsylvania cooperators indicated a "good passage of birds" through the state.

If you see a shorebird with dyed feathers or leg bands, please record details of: species, place, date, color marks, and numbers of other shorebirds present. Please record color and area of the bird dyed; for colored and plain metal leg bands, record which leg was banded, color and position of bands (above or below "knee," whether colored band was above or below metal band if bird had both).

Send reports to Dr. Morrison, Canadian Wildlife Service, 2721 Highway 31, Ottawa, Ontario, Canada, K1A 0H3.



U.S. Fish & Wildlife Director Lynn Greenwalt, above, speaks to class. Below, family and friends of Bob MacWilliams.



ASST. SUPT. Dick Furry presents badge and identification card to Rick Hixson.

16th Training

ON JUNE 26, following a study and field work, officers was graduated from the Elmer M. Rinehart, president at the exercises, and the new superintendent C. James W. Bowers presented diplomas. Greenwalt, Director of the U.S. Fish & Wildlife Service, gave the graduation address.





EXECUTIVE DIRECTOR Glenn L. Bowers congratulating class.



SOME WELL-WISHERS are younger than others!

s Graduates

a year of intensive classroom
 ss of game conservation of-
 fler School of Conservation.
 ame Commission, presided
 y were introduced by RLSC
 kecutive Director Glenn L.
 ssions, and Lynn A. Green-
 ldlife Service, delivered the

C Photos by Joe Osman



ROBERT FALA, below, speaks for the graduating class.





FIELD NOTES



Slippin' and Slidin'

With only a few days left until graduation and many final tests ahead, several members of the 16th class decided they needed to blow off a little steam. What better way than a softball game? To make things more interesting, we decided to bat opposite hand and run the bases backward. The hitting wasn't too good, but then neither was the fielding. We did loosen up! Thank goodness the end was drawing near.—Trainee R. D. Hixson.



Spirit of '76

INDIANA COUNTY—The Bicentennial spirit is spreading to the world of wildlife. Deputy Joe Cup of rural Saltsburg reported a pintail duck nesting by the flagpole at the American Legion Post near Saltsburg. In true Bicentennial form, the duck laid thirteen eggs in the nest—one for each of the original colonies! Who said the bald eagle is the only patriotic bird?—District Game Protector J. E. Deniker, Homer City.

Local Bounty

We have been seeing a lot of young pheasants, rabbits and ducks. It appears we will have a good supply for the small game hunters.—Land Manager G. B. Thomas, Shippensburg.

Broken Bond

Challenges Aldo Leopold described some 40 years ago in *A Sand County Almanac* are even more apparent today. For example: "The problem, then, is how to bring about a striving for harmony with land among a people many of whom have forgotten there is any such thing as land, among whom education and culture have become almost synonymous with landlessness. This is the problem of 'conservation education'." Anyone have a solution?—Trainee J. Wasserman.

Self Control or Gun Control

While on a 6000-mile auto trip to the Southwest this summer, I saw one thing everywhere: road signs must be considered legal game by a select group of slobs in every state, not just in Pennsylvania. I have a lot of respect for most people who have firearms and enjoy hunting—after all they are really the supporters of wildlife conservation in this country. But I can't in any way respect this group that makes themselves so obvious and obnoxious to everyone. If they turn me off, I can imagine how anti-gun and anti-hunting people feel. I have a message for these sign-shooting slobs: clean up your act or we will all suffer.—Land Manager R. B. Belding, Baden.

Nest in Peace

WAYNE COUNTY—Wilbert Bunting of Honesdale called in late May and said a pair of geese were nesting in his pasture and he was concerned because he intended to put his cows out to pasture soon. Cows are very curious and he knew they would disturb the geese. He wanted permission to erect a fence around the nesting site. Farmers are very busy at that time with fence repair, seeding, fertilizing and many other chores, and it sure does boost my spirits to know someone will still go out of his way to promote wildlife even when overwhelmed with work.—District Game Protector F. G. Weigelt, Galilee.



Movie Stars

WASHINGTON COUNTY—Deputy Charles Bush reported an unscheduled attraction at a local drive-in theater recently. One evening just before dark, a buck, two does and two fawns casually strolled out of the woods near the drive-in and enjoyed eating their evening meal in front of the huge screen. The deer didn't seem afraid and, much to the enjoyment of the youngsters in the audience, the fawns put on their own show by jumping and playing around. Production and direction credits go to "Mother Nature"—with our sincere thanks.—District Game Protector J. M. Kazakavage, Washington.



Exit, Stage Right

While jogging on one of the State Game Land roads near the Training School, I noticed two large porcupines comfortably perched about five feet up a small striped maple. Neither seemed concerned about my presence, so I ran quickly back to the school to alert several classmates interested in wildlife photography. When we returned there was still one quill-pig up the tree. He seemed about as bothered by the clicking cameras as a fish might be with water. He cooperated admirably—until I jokingly put a comb on his back as if to comb his quills. That proved to be too much for him and he decided to exit while his dignity was still intact.—Trainee M. W. Schmit.

The Fashionable Hunter

FULTON COUNTY—Looking over old pictures of hunting parties, I find it interesting to note changes in the style of hunting attire. In the old days, you had to have 18-inch high tops . . . and I've often wondered why I carried a foot-long hunting knife all those years while hunting rabbits . . . No garment ever grabbed me more places than a pair of breeches, but you just couldn't go hunting without them.—District Game Protector C. E. Jarrett, McConnellsburg.



Busy Mama

BRADFORD COUNTY—While on State Game Land 250 in Bradford County, I saw a black duck with fourteen young on one of our ponds. It was quite interesting to watch her pull the crippled bird act while her offspring swam for cover in the opposite direction. I wonder what some people would do if they had that many children to look after at one time!—Land Manager C. J. Harris, Athens.

Plan Ahead

SNYDER COUNTY—With fall approaching, the hunter is beginning to gear up for the coming season. This is a good time for him to contact local landowners for permission to hunt on those good areas. You can avoid the mad rush on opening days with a little foresight right now.—District Game Protector D. L. Myers, Selinsgrove.

Remembering Old Ways

WESTMORELAND COUNTY—Many of our local muzzleloader shooters have been traveling around the state putting on demonstrations at Bicentennial gatherings. Interest has been high. As our country looks back and meditates on our past, we may see a new appreciation of the skills that opened a continent.—District Game Protector B. K. Moore, Saltsburg.

New Nesters

CUMBERLAND COUNTY—I observed a pair of common gallinules nesting on the Letort Spring Run near Carlisle. This was a first for me during my 16 years in this district.—District Game Protector E. F. Utech, Boiling Springs.

Otter Confusion

Our Division Office is in a state of confusion while a new heating system is being installed. The other day a load of literature and supplies arrived, including the new Wildlife Note about the otter. The supply person told me that my box of otters was back in the storage room. One of the fellows working on the heating system overheard, but just gave us a blank look. I hope he doesn't start a rumor that we keep otters, by the box full, locked up in the division office!—Conservation Information Assistant J. A. Badger, Ligonier.



Crowded

PERRY COUNTY—I need some information from you ornithologists out there. We have a female bluebird and a female house wren using the same nesting box. Is it possible that both are planning on raising their families in the same nest?—District Game Protector L. L. Everett, Newport.

Sharing Our Heritage

This Bicentennial Year is a great time to reflect upon the heritage and tradition that made America what it is today. More and more, we realize the importance of the great outdoors. It has given continually of its resources for our needs and recreation. Why not continue this vital part of American life; introduce some youngsters to the fascinating world of the outdoors. Teach them the respect a hunter holds for wildlife, the wonders of our plant world, and the mysteries of nature. Most of all, let young people appreciate the responsibility we all have to conserve our natural resources. You can improve the quality of life for generations to come.—Trainee R. G. MacWilliams.

A Float Too Far

MERCER COUNTY—While putting out floating goose nests on Shenango Management Area, a new record was set. A certain game protector was on the nests, tying several together to be towed by boat. The boat developed motor trouble and by the time it was corrected the nests had floated to the opposite shore. This set a new record for floating the Shenango in a goose nest.—District Game Protector L. P. Heade, Mercer.

Auto be Shot . . .

SOMERSET COUNTY—This past fall, I mounted a spare tire on the front of my Game Commission Jeep to protect the grill from mishaps such as wayward deer, the occasional tree, etc. Within a week, a deer ran in front of me. The spare tire protected the grill, but not the deer. I related the incident to Ted Evans, a local radio personality, who remarked, "The deer wasn't dead, it was just 'tired'!" That's sick, Ted, very sick.—District Game Protector R. J. Askey, Meyersdale.



Surf, But No Turf

LUZERNE COUNTY—Last month I trapped and transferred two bears—one weighing 427 pounds—and serviced eleven bear damage complaints in western Luzerne County. One bear and her two cubs in the Red Rock area had a taste for seafood. She visited a resident whose back porch held a chest freezer. She opened the freezer, sorted out and ate the flounder and shrimp—leaving steaks and roasts for the homeowner. For dessert, she moseyed over to the neighbors and helped herself to some honey.—District Game Protector E. R. Gdosky, Dallas.

Worth the Effort

The training school staff can finally breathe a sigh of relief. After 11½ months of teaching, correcting improperly submitted reports and guidance in topics too numerous to mention, the final day arrived. Many hardships for the trainees and their families have ended. The result for the staff is a feeling of accomplishment in seeing 25 floundering trainees develop into game protectors. For the sportsmen and the cause of wildlife conservation—25 new game protectors. For the trainees, a rewarding career which cannot be found elsewhere. Was it worth it? You bet!—Trainee S. A. Smithonic.



Yours to Use

While in the field we are often asked how, other than for hunting, the 1,000,000-plus acres of State Game Lands are used. As an example, I could mention that while walking on Game Lands 54 this spring, I sighted over 18 species of wild flowers and 30 species of songbirds. The opportunity is there for everyone, simply for the taking.—Trainee G. A. O'Hara.

Despite It All . . .

When we visited Middle Creek Waterfowl Management Area during our state tour I found the scenery familiar, as I had been there on land management assignment three weeks earlier. One difference was quite apparent, however. Spring had brought with it many new young waterfowl. One mallard's nest lying within a few feet of a heavily used entrance to the visitors' center especially interested me. I was delighted to learn that she had tolerated the tremendous distraction of all the visitors and brought off eleven of the twelve eggs she had laid.—Trainee W. A. Sneath.

Who Guards the Guard?

ADAMS COUNTY—Well, history does repeat itself. Every year it's the same old story. In the fall people complain because there are only a few rabbits; in the winter they want the Game Commission to put out feed so the animals don't starve; and in the spring they want to destroy every one they see in their yard or garden. During the past few weeks my phone has been very busy with damage complaints about small animals. Also, during the same period the rabbits ate half of my own pea patch—probably while I was busy on the phone! Now just one little question: "Who do I complain to?"—District Game Protector G. W. Becker, Aspers.

Not Just Talk

ERIE COUNTY—Roger Hartless of Erie was appalled by the number of deer killed on the highways in Pennsylvania. What makes Roger different from most of us is that he decided to do something about it. At his own expense, he composed a slide lecture about the problem and presented programs to various area civic groups. Then he approached a local insurance company and a motor club, suggesting they sponsor a bumper sticker campaign. They were impressed with his idea and agreed to pay for printing the stickers which Roger designed and distributed. Not a bad example for a 13-year-old.—District Game Protector A. C. Martin, Erie.

Common Ground

On my Land Management assignment, I was fortunate enough to be sent to the Middle Creek Wildlife Management Area. The management practices on this unique area are fine examples of the Game Commission's contribution to both non-game and game species. Of the 325 species of birds sighted in Pennsylvania, 234 have been reported at Middle Creek. The recreational opportunity provided at this area is a common ground between the non-hunting and hunting public.—Trainee W. Q. Stump.



By Ted Godshall

New Approach to Elk Management

THE Pennsylvania Game Commission has adopted a new policy designed to maintain the present level of the state's elk population and to attempt to re-attract the herd to the vicinity of State Game Lands 14 in Cameron and Elk Counties.

In recent years, deteriorating range conditions have resulted in pronounced changes in elk movement and behavior. With the gradual maturation of the forest cover and loss of savanna-like herbaceous areas, depredations on agricultural cropland have occurred.

Crop losses have stimulated landowner demands for relief from foraging animals, but the legal removal of the offending elk has, in turn, aroused sportsmen and nature lovers.

The Game Commission, recognizing its mandate to manage all wildlife, including elk, for the benefit of the resource and the citizens of the state, in its new elk policy points out that habitat protection, manipulation and expansion wherever possible are important to elk management.

Productive elk range includes grassy openings and "fringe" areas where early post-disturbance successional communities merge with the mature forest, providing both food and cover. Therefore, the Game Commission has decided that habitat manipulation such as timber harvests and selective land clearing to create food strips will receive added emphasis as part of the land management activities on State Game Lands 14.

Working in concert with Bureau of



Photo by Leonard Lee Rue, III

DETERIORATING range conditions have resulted in pronounced changes in the movements of Pennsylvania's small elk herd. The Game Commission is manipulating habitat to re-attract these great animals to the desired region.

Forestry personnel, contiguous lands under their ownership hopefully will be brought into the habitat development and maintenance program, which will be aimed at making the area of State Game Lands 14 more attractive to elk.

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New Game Protectors Assigned

MEMBERS OF THE sixteenth class of game conservation officers to be graduated from the Game Commission's Training School reported to their field assignments throughout the commonwealth in July. All 25 of the new officers assumed duties of game protectors in assigned districts.

Graduation exercises for the class were held June 26. (See pp. 32-33 for photos.) Training classes for the group

began in July of last year. Classroom instruction and field training included biology, land management, Game Law and related law study, legal procedure, police sciences, game management and propagation, public relations, public speaking and physical education.

Members of the sixteenth class, along with their home towns, and the counties to which they have been assigned, follow:

<i>Name</i>	<i>Home Town</i>	<i>Assignment</i>
William P. Anderson	Tidioute	Washington
Gene W. Beaumont	Luxor	Lawrence
Elwood L. Camp, Jr.	Elysburg	Perry
William R. Dilling	York	Schuylkill
Robert A. Fala	State College	Lycoming
Timothy C. Flanigan	Stoystown	Westmoreland
Rickie D. Hixson	West Sunbury	Westmoreland
Leonard C. Hribar	Oakdale	Venango
Philip J. Lukish	Catasauqua	Huntingdon
Robert G. MacWilliams	Ebensburg	Allegheny
Daniel E. Marks	Williamsport	Cambria
Timothy A. Marks	Williamsport	Mifflin
George A. O'Hara	Vintondale	Jefferson
Donald C. Parr, Jr.	Edinboro	Huntingdon
Michael W. Schmit	Schuylkill Haven	Berks
Alan C. Scott	Schuylkill Haven	Armstrong
Barry J. Seth	Butler	Greene
John A. Shutter, Jr.	Bethel	Lancaster
John G. Sickenberger	Greensburg	Washington
Steve A. Smithonic, Jr.	Exeter	Columbia
Willis A. Sneath	Alexandria	Crawford
Warren Q. Stump, Jr.	Mifflintown	Lehigh
John Wasserman	Upper Black Eddy	Clinton
William Wasserman	Kintnersville	Montgomery & North Philadelphia
Frank S. Zalik	Corry	Mercer



SOMETIMES, DUE TO a sportsman's instant action, evidence against a game law violator is unusually impressive—as in this situation in northeastern Pennsylvania. A hunter/photographer was taking pictures of some deer in a field when a vehicle pulled to a stop on the road, a gun was pointed out of the window—and the photographer did his stuff. After reporting the violation to DGP Ed Sherlinski, the sportsman also appeared as a witness at the hearing . . . with a series of photos including this one. A conviction resulted.

PENNSYLVANIA GAME COMMISSION

SUMMARY

1976 SEASONS AND BAG LIMITS DOVES, RAILS, GALLINULES, SNIPE, WOODCOCK

Species	Open Seasons		Daily Bag Limits	Maximum Possession Limits
	First Day	Last Day		
Doves	Sept. 1	Nov. 9	12	24
†Rails (Sora and Virginia)	Sept. 1	Nov. 9	25*	25*
Gallinules	Sept. 1	Nov. 9	15	30
Wilson's or Jacksnipe	Oct. 16	Dec. 18	8	16
Woodcock	Oct. 16	Dec. 18	5	10

†NO OPEN SEASON—King and Clapper Rails.

*Singly or in the aggregate of species.

SHOOTING HOURS

Doves—12 noon, prevailing time, to Sunset.

Rails, Gallinules, Snipe, Woodcock—One-half hour before Sunrise to Sunset (except on October 30 when the opening hour will be 9 a.m.).

MISCELLANEOUS REGULATIONS

FEDERAL MIGRATORY BIRD HUNTING STAMP ("DUCK" STAMP) *NOT REQUIRED* TO HUNT DOVES, RAILS, GALLINULES, SNIPE, WOODCOCK. BOW AND ARROW, SHOTGUN PLUGGED TO NO MORE THAN 3-SHELL CAPACITY ARE LEGAL; RIFLES AND PISTOLS ARE PROHIBITED. NO HUNTING ON SUNDAY.

Over Four Million Seedlings Planted

Pennsylvania's wildlife will soon be benefiting from more than 4.5 million seedlings planted throughout the state this spring. The seedlings were produced at the Game Commission's nursery at Howard in Centre County. Sportsmen's groups, conservation clubs, soil and water conservation districts, landowners cooperating in programs of the Game Commission designed to keep private holdings open to public hunting, other state agencies, coal stripping operators and others received seedlings which will provide future food and cover for wildlife. More than half of the seedlings were planted by Game Commission personnel on State Game Lands, tracts which have been purchased with funds derived from the sale of hunting licenses and maintained as public hunting areas, and on farm-game projects, private land which is kept open to public hunting.



THE ACT OF COLLECTING is instinctive with most humans. Outdoorsmen are no exception, and Merritt A. C. (Mac) Snyder, of Leesport, shows part of his favorite collection—a complete set of GAME NEWS. Not many such sets exist in private ownership.

Pennsylvania Hiking Trails, 7th ed., pub. by Keystone Trails Assoc., Appalachian Trail Conference, P.O. Box 236. Harpers Ferry, W. Va. 25425. 92 pp., paperbound, \$2. Brief descriptions, with sketch maps, of dozens of hiking trails in the Keystone State, including the newly-opened, 105-mile Tuscarora Trail in southcentral Pennsylvania. (Does not include the Pennsylvania portion of the Appalachian Trail, which is covered in another KTA publication.)

Commonwealth of Pennsylvania

Governor's Office

Harrisburg

PROCLAMATION

Pennsylvania Hunting and Fishing Day—September 25, 1976

As the first state in the Nation to recognize its sportsmen and women for their many far-reaching accomplishments, Pennsylvania set aside a special day in 1970. Since then, the United States Congress and the President have annually designated a day in their honor. This year, Saturday, September 25, has been officially proclaimed as "National Hunting and Fishing Day-1976."

Over one million Pennsylvanians are licensed hunters and more than a million citizens will purchase a fishing license this year. Working together in the American tradition, the Pennsylvania Federation of Sportsmen's Clubs, Inc., are promoting sound conservation practices so that generations to come will inherit a healthy environment and adequate resources.

Hunters and Fishermen have further asked that their hunting and fishing license fees be increased and that sporting gear be taxed nationally, so that funds derived may be devoted to improving the management of fish and wildlife habitat; the continuation of wildlife research; the education of our citizens; and for the purchase of land to be held in trust for the benefit of all.

In addition, the sportsmen and women, through their various local clubs, have been sponsoring the State Junior Conservation School, the county-level Junior Conservation Schools, the State Teachers' Lab and the statewide Wildlife Poster Contest. The goal of these worthwhile programs has been to help our young people develop an environmental ethic, an attitude of living in harmony with the total environment.

Pennsylvania's hunters and fishermen are deserving of special recognition because of the outstanding contributions they are making to generations yet to come.

Therefore, I, Milton J. Shapp, Governor of the Commonwealth of Pennsylvania, do hereby proclaim Saturday, September 25, 1976, as PENNSYLVANIA HUNTING AND FISHING DAY. I urge all our citizens to join with sportsmen-conservationists in a rededication to the wise use of our natural resources and their proper maintenance for the benefit of future generations.

Further, I urge all citizens to take part in Pennsylvania Hunting and Fishing Day activities on September 25, to learn more about conservation and outdoor skills.

GIVEN under my hand and the Great Seal of the State, at the City of Harrisburg, this thirtieth day of June, in the year of our Lord one thousand nine hundred and seventy-six, and of the Commonwealth the two hundredth.

MILTON J. SHAPP
Governor

By: Ernest P. Kline
Lieutenant Governor



LIEUTENANT GOVERNOR ERNEST P. KLINE signs the 1976 Pennsylvania National Hunting and Fishing Day proclamation.

1975 NHF DAY scenes, right and below, are typical of those which will take place throughout the country on September 25, 1976, as sportsmen familiarize new friends with their activities.



COMMONWEALTH OF PENNSYLVANIA HUNTING LICENSE APPLICATION

NO PERSONAL CHECKS ACCEPTED

Certified Check or Money Order

Required for Mail Orders

Agent Write in Fees

Check Type(s) Desired

Resident Adult (17-64 yrs. of age) \$8.25 ☐Resident Junior (12-16 yrs. of age) \$5.25 ☐

Resident Senior (65 years and older)	\$5.25	<input type="checkbox"/>
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Non-Resident	\$40.35	<input type="checkbox"/>
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Muzzle Loading \$3.25 ☐Archery \$2.20 ☐

Non-Resident 3-Day Reg. Shoot. Grounds

Valid from _____ to _____ only on Reg. Shoot. Grd. \$3.15 ☐*Resident Disabled War Veteran Claim No. Free ☐

*Available only from County Treasurers	Postage
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Postage

Total

[Print Plainly](#)

NAME _____
 (First) (Middle Initial) (Last) (Occupation)

Legal Residence _____
(Street or R.F.D.)

City _____ State _____ (Zip Code) _____

(County) Date of Birth ____/____/____
(Month) (Day) (Year)

Age _____ Color Hair _____ Color Eyes _____ Weight _____ Height _____

SEX: ☐ Male ☐ Female

Place of Birth	(Post Office)	(State)	(Nation)	Resident of Pennsylvania since
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I certify that above information is true and that my hunting privileges have not been revoked for this license year. Under 16 years of age (Resident or Non-Resident) have presented Hunter Safety Certificate _____ or prior hunting license # _____

(Signature of Applicant)

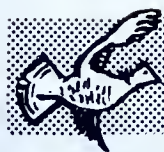
(Date)

I hereby certify that applicant has properly identified himself/herself and in my opinion is entitled to license(s) listed.

(License No.) (Archery Lic. No.) (Muzzle Loading Lic. No.) (Signature of Issuing Agent)

Agents Not Responsible for Licenses lost by Mailing.
Mail Application and correct amount of fee (Include \$.25 postage) to the PENNSYLVANIA GAME COMMISSION, LICENSE SECTION, HARRISBURG, PA. 17120, any Pennsylvania County Treasurer, or Approved Agent. **(DO NOT SEND STAMPS)**. Hunters under 16 years of age must present proof of Hunter Safety Training or prior hunting license. (Preferably a photostatic copy). Non-Resident 3-day Regulated Shooting Grounds Licenses are not valid for any general small or big game hunting. Mail orders for Resident Hunting Licenses must include positive proof of residency in this Commonwealth.

LICENSE FEES ARE NOT REFUNDABLE



HUNTER EDUCATION

By John C. Behel
PGC Hunter Education Coordinator

WHY A sporting arms course for women?

When District Game Protector Barry Warner set up the program in response to requests from a number of Bedford County women, he hoped the participants would develop a sense of confidence; he wanted them "to feel at home with sporting arms." And, since most of them were wives or mothers of hunters and shooters, he thought it might encourage the women to share in these family activities.

Judging by comments made in the final critique, the course was successful. Here's a sample:

"I was very happy when I saw a course in gun safety just for women. My husband and son have been showing me how to handle guns, but you know how *that* goes . . . like having your husband teach you how to drive—*don't!*"

"I never had any interest in guns be-



Women-Only Firearms Course Successful

By Wes Bower
CIA, Southcentral Division

cause I was afraid of them. We have learned a lot about the proper handling of guns, and I really appreciate this."

"My husband likes to shoot and now we can do it together. A pleasant surprise was finding out that I can hit a target."

"I am not interested in hunting and though I don't think I will ever go into tournament shooting, I do enjoy target shooting for my own benefit. I believe this type of shooting is a good sport in which the whole family can participate and get a lot of enjoyment."

"Before, I treated guns with fear;

now, I treat them with respect."

Finally, this light-hearted remark which seemed to sum things up best of all: "I liked it! I liked it!"

The course covered safety; types, uses, care and storage of firearms; safe handling of firearms in the field, at home and on the range; firearm owners' responsibilities; laws; anti-firearm and anti-hunting groups. Cpl. Ed Henry of the Pennsylvania State Police, Bedford Barracks, lent a hand by presenting the session on legal aspects of possession, transportation and use of firearms.

The series included two films,

"Firearms: Our Responsibility" and "Guns in the Home."

And what was the most fun? The actual "hands-on" experience in handgun shooting, according to many of the women. Their teacher has his marksmanship credentials; Game Protector Warner placed first in his class last year in statewide NRA competition, and nailed down first place honors in the Game Commission's South-central Division where he competed with fellow officers.

Though Warner had originally planned this as a one-time program—and wasn't sure if there would even be enough interest to present it—the enthusiasm of the first participants has encouraged him to schedule a follow-up course, which many of them will attend.

The Chestnut Ridge Bow and Gun Club provided the meeting-place, and club members Dick Pugh and Terry Mickle, who received a certificate from the Game Commission for their participation, provided valuable assistance. Another fine example of the coopera-

tion of sportsmen's clubs with the Game Commission's Hunter Education program!

Efforts like these help us gain some ground on the anti-gun movement.

The feelings of the women are summed up in the following letter.

Glenn L. Bowers
Executive Director
Pennsylvania Game Commission
South Office Building
Harrisburg, Pa. 17120

Dear Mr. Bowers:

In these times when much criticism and condemnation is being directed towards the Game Commission and its district game protectors, by individuals and groups uninformed or unaware of the responsibilities of the Game Commission and the duties of its game protectors, we, a group of women and the Chestnut Ridge Bow and Gun Club, wish to take this opportunity to commend the Game Commission and particularly District Game Protector Barry Warner of Bedford County.

In January, a few of us decided there was a need for a course of instruction to teach the women of our rural area the safe and proper use of firearms, handguns in particular. Since we were inexperienced along these lines, we needed a competent and skilled instructor. After being advised of our desires, Mr. Warner volunteered his services to conduct the course in firearms safety and handling. The course was held once a week for two hours and lasted six weeks. Approximately twenty women of all ages took the course. As a result of this, the majority of the women wish to continue the course and expand it to include other types of firearms and the NRA hunter safety program.

Most of us were aware of a game protector's duties of apprehending game law violators. However, we were unaware that a game protector would willingly donate his personal time to instruct a group of inexperienced women who had a desire to learn. Mr. Warner's competence, skill and the professional manner in which he conducted himself and the course should be, we feel, a credit to the Pennsylvania Game Commission. Because of Mr. Warner, more families in our area realize guns provide fun and recreation rather than violence.

Sincerely,
Nina L. Pugh
New Paris, Pa.



JOHN ECKHART, of Steelton, circulation director for **GAME NEWS**, retired in June after eight years of service with the Pennsylvania Game Commission.

Two HE Programs By Knoch Area Schools

PENNSYLVANIA is an outdoor, sport-loving state in which the Knoch Area School District is a representative example. One or more firearms may be found in almost every home in this area. This fact alone demands that each person, especially the young, must understand firearms for his own safety and for the safety of those around him.

We have four basic objectives or reasons for our gun safety programs: 1. To reduce the number of gun accidents by teaching safe handling of sporting arms; 2. To develop favorable ethics about personal and public responsibility; 3. To promote concern for proper game management and conservation; 4. To increase understanding of firearms by both the hunter and non-hunter. We feel that if by teaching this program we can prevent one accident or injury, the course is well worthwhile.

It is true that all students are not hunters and many may never become hunters. However, we give all of them the basic instruction. Many girls probably will never hunt, but they may live in a home in which the father or a brother hunts. Some of them will marry men who hunt and later have sons or daughters who will own firearms.

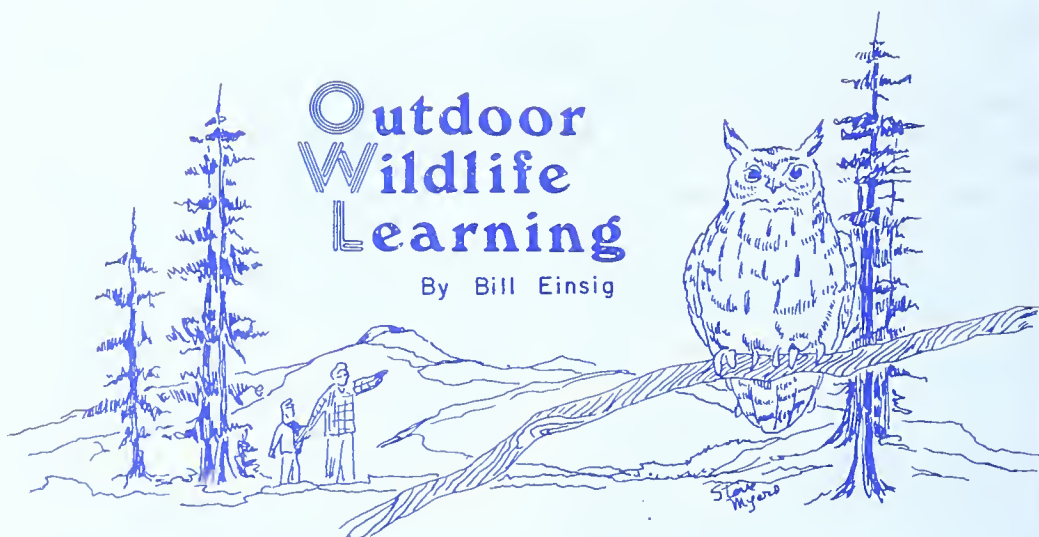
The gun safety program at Knoch High School was started in October, 1967. Through two different programs instruction has been provided to 2887 students. The regular program, instructed by Dale Mahan, is for all 10th grade boys and girls. The after-school program is attended by students desiring to obtain hunting licenses. This group has been instructed by ten men who have given freely of their time and energies. Teachers at K.H.S. who have been yearly doing a great job to help the students are Hugh Shearer, Don Kunselman, Walter Hankey, James Faust, Joseph Stumpf, Leonard Dombroski, Dick Walker, Tony Allegretti, Larry Sezabalski and Dale Mahan.

The students are instructed according to the Pennsylvania Hunter Educa-

tion Program. Upon completion of the firing of the shotgun and passing the written examination, they are awarded the Hunter Education Program certificate. Instructors bring in guns to be used by the students to fire at stationary objects or clay birds sailing through the air. The students may bring shells from home or purchase shells on the day of firing from the instructor. If a student does not have the money, shells are provided by the instructor. Students who have serious objections to firing do not have to fire, but very few people have never fired. The Knoch High School instructors, with the cooperation of District Game Protectors Jay Swigard and Ned Weston, feel they have offered their students something additional that may enable them to lead a happier, safer and more enjoyable life.



HUNTERS ARE DETERMINED people, a fact proved by R. Elmer Haas, of Reading. Mr. Haas hunted for 48 years before bagging his first buck, the 6-point shown here, near Lock Haven in Clinton County. After hunting so long and hard for his trophy, there's no doubt that seeing the mounted trophy will for years bring back many fine memories to Mr. Haas.



Autumn Leaves

Just as the willow and skunk cabbage signal the beginning of a new growing season, so the colorful displays of autumn leaves proclaim the end. To almost all of us the oranges, yellows, and brilliant reds are familiar but never without awe and meaning. We look forward to the foliage change as another of nature's shows for us to enjoy and to ponder. Why do the leaves change colors at all? Why are some red, others orange and still others drab brown? Why is there such variation from one year to the next, or even from one side of a tree to another?

A bit of basic biology helps us to really understand what happens inside the leaf. Plant cells contain several pigments. The most familiar of these is the chlorophyll group. The main function of this green pigment is to trap light energy and convert it to a form the plant can use. Some of this light energy is used to convert carbon dioxide and water into sugars and starches, which are forms of stored energy. This manufacturing process is called photosynthesis and sets green plants apart from all other forms of life that cannot produce their own food.

Two other groups of pigments are the carotenoids and anthocyanins. The carotenoids produce orange and yellow hues in leaves, some fruits, vegetables and other plant structures. Carotenoids are usually found in the same small bodies inside of plant cells as the chlorophyll, but because the chlorophyll is more abundant the carotenoids are not normally seen in green leaves. Grass that has been covered from the sun will shortly turn yellow as the chlorophyll breaks down and

the carotenoids show their colors. The other group of pigments—the anthocyanins—are not commonly present in most leaves during the growing season. They form from stored sugars when environmental conditions are just right. These pigments are responsible for the reds, blues and violets in some plants.

As autumn approaches, many chemical changes take place in the leaf cell. Chlorophyll production slows down and leaves begin to lose their normal green color. The orange and yellow carotenoids are slightly more persistent, so many plants develop the warm colors of fall not because of pigment formation but because the chlorophyll disappears. On the other hand, certain plants with leaves rich in sugar produce anthocyanins, giving the leaves reddish hues.

Cool temperatures and bright sunlight seem to be the key to rich fall colors. Many people think frost is necessary for real brilliance but actually it isn't required at all. In fact, a severe autumn frost can reduce the brilliance of the foliage. Sunlight affects the changing leaves, too. Watch how leaves on the outside of a crown change before the inner leaves. Poison ivy in shade develops yellow leaves, but in full sunlight the same leaves become brilliant red. In this particular case, red antho-

Correction . . .

Last month, our "In Memoriam" section gave the dates of 1895–1975 for Burton A. Benson, a former game protector. That birthdate was incorrect. Mr. Benson was born on October 4, 1866 and died August 30, 1975.

cyanins form in the sun but not in the shade, where the carotenoids show their yellow color. Fall coloration is an intricate phenomenon caused by a variety of environmental and genetic factors. In fact, many chemical aspects are not completely understood.

Many lessons and activities could be developed around the autumn leaf change. A classic laboratory experiment for biology classes involves separating the carotenoids from chlorophyll by paper chromatography. Most lab manuals have complete directions. Other questions requiring some observation and analysis could be posed to a science class. Which plants produce which colors? What plants show a distinct variation in color between shaded and unshaded regions? Why? Would it be experimentally possible to cause leaf color change in the laboratory? An art class would find the changing trees subjects of great value. How would an art student interpret the changing colors? What combination of color and form would symbolize the procession of the seasons?

Home economics and health classes should give a hard look at the orange and yellow carotenoids. One of them, beta carotene, is the basis for vitamin A synthesized by animals. Much of our vitamin A comes from this source. Social studies classes should investigate the range through which leaf coloration occurs. Would it occur in Florida? In Canada? In Europe? An accurate study would show students in our area how fortunate they are to be able to enjoy a phenomenon most of the world never sees. Autumn foliage offers us many questions to ponder and lessons to teach, but even if it did not it would be valuable for its beauty alone.

One final note for those who have categorized plants as "good" and "bad." The next time you see a brilliant splash of red along the road, look closely to see what that plant is. It could well be the same poison ivy or sumac you avoided all summer.

Edible Plant Guide

Interested in eating wild plants? Afraid of eating poisonous plants by mistake? *Edible Wild Plants of Pennsylvania and New York* by John Tomikel is an interesting little book for those who get a kick out of collecting, preparing and eating wild plants. The book includes not only the edible herbaceous plants but water plants and woody trees and shrubs as well. A brief section at the beginning describes and

shows plants to avoid because of their poisonous nature and another section describes methods of preparation and other hints. Look for this handy reference at your favorite bookstore or write to Allegheny Press, Box 1652, Pittsburgh, Pa. 15230.

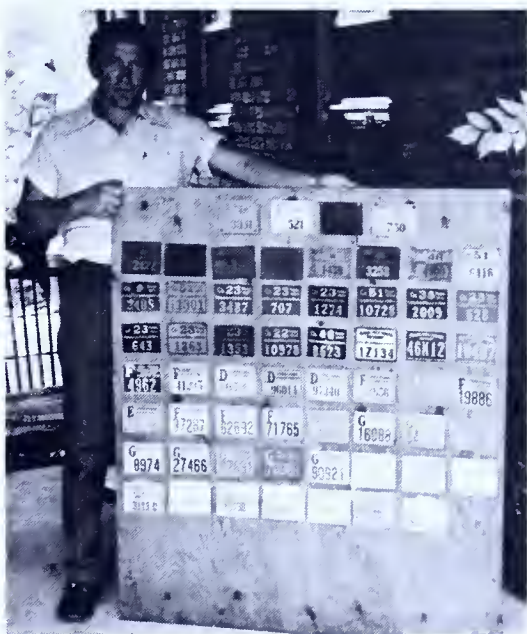
Good News!!

Environmental Science by Amos Turk, et al., at last brings to environmental education a comprehensive text dealing with both the technological and sociological aspects of environmental problems. The book is intended primarily as a college or advanced high school text for courses in environmental science. At the end of each chapter is a bibliography and a lengthy list of problems—some involving computations, others dealing with value judgments.

If you are looking for a usable book, one that is neither over-burdened with technical details nor over-generalized, be sure to examine this volume. Request it by title from W. B. Saunders Co., West Washington Square, Philadelphia, Pa. 19105.

What Do You Think?

OWL wants to hear from you! Your ideas could be just what someone else is looking for. Address all correspondence to: OWL, Bill Einsig, 1912 Karyl Lane, York, Pa. 17404



RONALD J. ESHBACH, of Bechtelsville, and his set of Pennsylvania hunting licenses dating from 1913, the year of first issue.

Darn Those Doves!

by Susan M. Pajak



SUE PAJAK likes a full choke 12-gauge for dove hunting, so often uses her trap gun, a M1100 Remington autoloader, for such hunting. This combination is excellent when ranges are long.

DOVES SHOW no mercy when it comes to making you think twice about your shotgunning abilities. In spite of all the time you may put in at the trap and skeet ranges, it's not at all unusual for a couple, three, four doves to flit and flap directly overhead so that you don't know whether you should try to take one on this side of the gravel hump you're straddling or twist yourself into a pretzel and take it on the other side.

Doves not only dip and dive but they

also delight in executing what must be 180° turns the second you pull the trigger so that the shot string pushes beautifully—and uselessly—into space.

Any shotgun you own will be alright for doves as long as you are proficient with it and know its kill range. Many, however, prefer the 12-gauge in full choke and I have found this combo satisfactory.

Take plenty of shotshells, making sure all reloads have also been resized. If they aren't resized, they could cause some hangups in the shotgun by not feeding smoothly.

If you have both new and reloaded shells, slip in a reload first and then back it up with two new shells.

Higher Flyers

Sunny weather usually means higher-flying doves; use long-range shotshells (6s, 7½s, or 8s) and try a full choke. Cloudy days mean lower, or closer, doves, so one may try 7½, 8, or 9 shot; full, modified, or improved cylinder choke.

No matter what the weather, clothe yourself well. Long sleeves are a must since insect populations (yellow jackets, flies, etc.) are still around and can be a menace to the human body. It might help to move your downed doves a little way from your position so they won't attract so many insects. One time I witnessed a swarm of yellow jackets all over a few doves that had been taken minutes earlier.

The best way to collect some doves (flyway or grain fields) is to get on them fast; as soon as the muzzle passes the dove, pull the trigger. Handle doves as you would handle those nasty, dipping claybirds on a very windy day.

Keeping your shotgun firm against your cheek (do not lift your head off the stock or you will miss) and following, or moving, with the dove, pull the trigger when the muzzle covers the bird. **Keep the gun swinging as you shoot!**

At all cost, **concentrate** and be ready

GIRLS, GUNS, & GAME...

for fast shooting. By the time it takes you to whine, "Oh, gee whiz, here comes a dove," it'll probably be out of range.

Try not to look at the wings constantly, as this wing-flapping has a tendency to make you think doves are moving much faster than they really are—and they're fast enough already!

If you're not situated in a flyway,

walk the edges of cornfields and wheat stubble fields for jump shooting. Scout rural areas beforehand for possible dove populations. Always ask permission to hunt on someone else's land.

And somewhere on that beautiful body of yours, wear some blaze orange.

* * *

A note from J. D. Griffin of Kennerdell, "Gun racks with leather pads draw damp. If your gun stays in them for any length of time you'll get pits. I know. My Charles Daly double barrel has two, one in each barrel. I live in a high humidity area and have to clean my guns often."

* * *

Note: If anyone is thinking of sponsoring a turkey calling contest this year, or whenever, drop a line to Don Irwin, 616 Erie Avenue, Renovo, Pa. 17764. Don would like to suggest a new idea or two.

Books in Brief . . .

(Order from publisher, not from Game Commission)

A 4000-Mile Backpacking Log of the Appalachian Trail, by Ed Kuni, Kutztown Pub. Co., available only from the author, P.O. Box 4000, Kingston, Pa. 18704, 142 pp., \$5.85 delivered. Outdoor columnist for the Wilkes-Barre *Sunday Independent*, Ed Kuni backpacked the entire length of the Appalachian Trail twice in successive years, 1972-73, the first hiker ever to do so. During his eight months on the trail, he never spent a night in a home, motel or rooming house. This book is a day-to-day account of his experiences, the things he saw, the persons he met. Fascinating reading for anyone interested in this country's most famous trail and the people it attracts.

Birds of Central Pennsylvania, the State College Region, by Merrill Wood, 2nd. ed., 54 pp., paperbound, \$2 delivered. Wood is a retired professor of ornithology from Penn State and this booklet is based on records of the State College Bird Club, Inc. It tells where and when to find various species of birds within a 25-mile radius of Penn State's Old Main. Also available is the 1976 checklist, "Birds of Pennsylvania," edited by Wood and Dr. David Pearson. In lots of 20, \$1.50 delivered. Both from the State College Bird Club, 626 W. Nittany Ave., State College, Pa. 16801.

Wonders of Geese and Swans, by Thomas D. Fegely, Dodd, Mead & Co., 79 Madison Ave., NYC 10016, 96 pp., \$4.95. Interesting facts about the lives—the courtship, breeding, nesting, feeding, migration routes, etc.—of the trumpeter, whistling and mute swans and the Canada, snow, whitefronted, Ross', emperor, barnacle and brant geese.

The Practical Book of Knives, by Ken Warner, Winchester Press, 205 E. 42nd St., NYC 10017, 189 pp., \$10. Anyone who reads outdoor magazines knows that custom knife articles have flooded the field in the last decade. The credit—or blame—for this should go to Ken Warner, who started the whole thing a dozen years ago with a long piece in *Gun Digest*. Now he's wrapped up most of his observations in hard covers—well illustrated—and tells outdoor people most of what they should know about these indispensable tools. The writing is very reasonable, almost homey, yet says precisely what Warner wants to say. In the end, it adds up to quite a bit. He covers sheath knives, folding knives, pocketknives, fighting knives, even kitchen knives, and gives good dope on how to carry them, sharpen them, even make 'em.



A Wealth of Water

By Les Rountree

PENNSYLVANIA is blessed with an abundance of water. Not like Minnesota or Maine, which are dotted with lakes, potholes and ponds, Pennsylvania's water is in streams, rivers, brooks, runs and creeks (or as the western Pennsylvanians say, "cricks").

The prehistoric ice ages scoured and ripped the surface of the eastern landscape with incredible force. The Finger Lakes of New York State were plowed out by a glacier of immense size. The tops of the Appalachian Mountains were covered by a thick ice layer that cut valleys and trenches which later held rivers. The last ice age didn't quite make it into Pennsylvania. At least the ice didn't come far into the state. There is a diagonal line across Potter County where the final stages of the great ice and boulder mass ceased to flow. It's easy to see today. What the Keystone State got as a result of this last, great

WHEN YOU'RE REALLY thirsty, nothing is as satisfying as cool pure water. A wide-mouth plastic jar with tight-fitting top makes a good carrier in pack pocket. Halazone tablet purifies while you're walking.

geologic phenomenon is the tremendous water runoff that formed our latticework of major rivers and their tributaries.

Nearly every valley or hollow in our state has a brook or spring. Many of the early springs are now a mere shadow of—or rather, a trickle of—what they once were. The dense conifer forests that once blanketed Pennsylvania and most of the northeast were seated in a solid bed of pine and hemlock needles, several feet thick. This porous bed of material, in various stages of decomposition, was a huge, natural sponge that held unbelievable amounts of water. Shifting belts of soil and gravel

moved into disarray by the ice age helped hold still more water across most of the state. In the southcentral portion of the commonwealth, huge faults in the limestone structure also retained (and still do) great quantities of water. The limestone springs of Centre and Cumberland counties are still producing flowing cascades of water that immediately give rise to full-fledged creeks . . . or minor rivers. The springs of Letort, Big Spring, Antes Creek and a host of others are pointed evidence of the water that abounds beneath the surface of Pennsylvania.

In the mountains, many old-time springs are still producing good quality water and lots of it in spite of man's tampering with the surrounding landscape. Because of the filtering action applied to the "freestone water" of the northern half of the state, it is generally more suitable as drinking water than is the "limestone water" of the southern half. Generally, these are referred to as "soft" and "hard" waters. It is also a generalization to call the northern water "acid" and the limey water "alkaline." Both sorts of water can be perfectly fine to drink . . . but the camper or hiker in country strange to him should never assume that just because a spring looks good to him, it's safe. A sparkling spring could be loaded with nasty materials while a murky, chalky flow from a limestone spring might be totally free of dangerous substances. How is the hiker or camper to know?

Well, the answer is, he can't. Unless he hikes or camps with a complete testing laboratory and has the knowledge to use it, he's taking chances. At state parks and private campgrounds the water is frequently checked by state health authorities and the danger is minimal. At pumps and springs in those places, the traveling camper should fill



BOILED TEA OR COFFEE is standard with most backwoods meals. Boiling purifies questionable water and any bad taste can be hidden by the added tea, sugar, milk, whatever.

his water storage unit if he's on wheels or his canteens if he's hoofing it. That's the only way to be completely sure of your drinking water, unless, of course, you bring it from home. Which may not be a bad idea. Not too many years ago, it was common practice for families to carry a jug of water in the car if they ventured more than a few miles from home. Much sickness was attributed to drinking strange water, and the fact is, there were problems. Today, most city water systems, while producing a liquid that will smell like the inside of a dispensary, is hygienically pure. It puts rings around the pans and makes coffee taste like medicine, but at least it won't harm you.

Warning travelers against drinking the water in many foreign countries is no joke. "Montezuma's Revenge," that Mexican version of the old quick-step, can ruin a trip quicker than four flat tires. Headache, nausea and then diarrhea make themselves felt, and it's no laughing matter. But waterborne microbes can cause problems in any part of the world. You don't have to go to other countries to find out.

The human body is an amazing piece of machinery. It builds up a resistance to the little creatures in our drinking water—that is, the drinking water that we become used to. Immunity to these impurities occurs without our knowing it. We do know something is wrong





PENNSYLVANIA IS BLESSED with ample water supplies. Though we don't have lakes like Minnesota, say, we do have several great rivers, numerous brooks, springs and "cricks."

when we visit Aunt Mary and immediately taste or smell something unfamiliar in that first drink of water. It's not "our" water and it may or may not make us sick.

This water sickness is not nearly as prevalent in the United States as it used to be. More intense water treatment has reduced the danger of serious illness, and people are simply traveling more. The human body continues to adjust and to arm itself against strange microbes and germs.

The camping family, especially those with small children in tow, should still employ the most efficient method of acquiring potable water. That means boil it! Boiled water ends up tasting pretty flat but 99 percent of the harmful bacteria in it has been eliminated. The water can then be stored in a cooler or poured over ice (which should also have been purified). The hiker can do the same in his cooking kit, using spring water or creek water, or in the winter, snow and ice. The canteen can be filled and submerged in a cool spring or deep pool by tying a rock to it and leaving it there overnight. It will chill to the exact temperature of the surrounding water.

Another way to make sure of water

on a hiking trip—or any other trip for that matter—is to purchase a supply of water purification tablets. Most drug stores sell halazone tablets or similar products. If used as directed, they will decontaminate all but the most highly-chemically charged water. We don't, for example, know how to remove or nullify some of the sophisticated chemicals that are being used on crops or forests. Some of the long lasting pesticides and herbicides have an indefinite life factor. But it's probably not too wise to dwell on this, as we all ingest quantities of strange chemicals every day of our lives. We can't escape it . . . even if we don't drink water at all.

The very best canteen for hikers, hunters, fishermen and other outdoors people to carry is the old army style with a padded canvas cover. The steel or more recent aluminum inner bottle is rugged and holds nearly a quart. The padded outer shell should be soaked with water. It will evaporate and keep the water reasonably cool. Nothing has yet been designed to beat these for durability or effectiveness. The newer double-shelled plastic or foam-lined canteens are also excellent and are

much lighter than the GI version. But some people who hike a lot object to the constant slapping of the canteen on their hip. I do, too, and after a couple miles of hiking that canteen seems to weigh a ton. The end result is that one drinks that water up quickly to get rid of the weight and then later on, when a real thirst develops . . . no water.

On recent hiking trips I've switched to a wide-mouthed plastic jar carried in the pack. I don't notice the extra weight there and if I remember to fill it up when I pass a suitable supply, the idea works well. On extended trips through strange areas, where the water supplies have not been tested and may be questionable, the halazone tablets take away the guessing. At any spring I haven't sampled before, I fill up the jar and drop in a tablet. The walking action sloshes the water around and by the time I'm thirsty, it's well mixed. The water may not taste good, but at least I'm not going to get Montezuma's Revenge.

But if you are familiar with certain springs in the areas where you hike,

hunt and ramble, don't fail to build up a thirst when approaching such an oasis. There is absolutely nothing in this world more refreshing than pushing your face into a shaded spring and sucking up a mouthful of cool water. It's no less a pleasure to carry a tin cup in your car and experience the unique joy of gulping that icy liquid, letting a few drops dribble from your chin. The soft drink manufacturers will hate me for saying it, but no artificially-sweetened pepper-upper ever did so much for a thirsty human being.

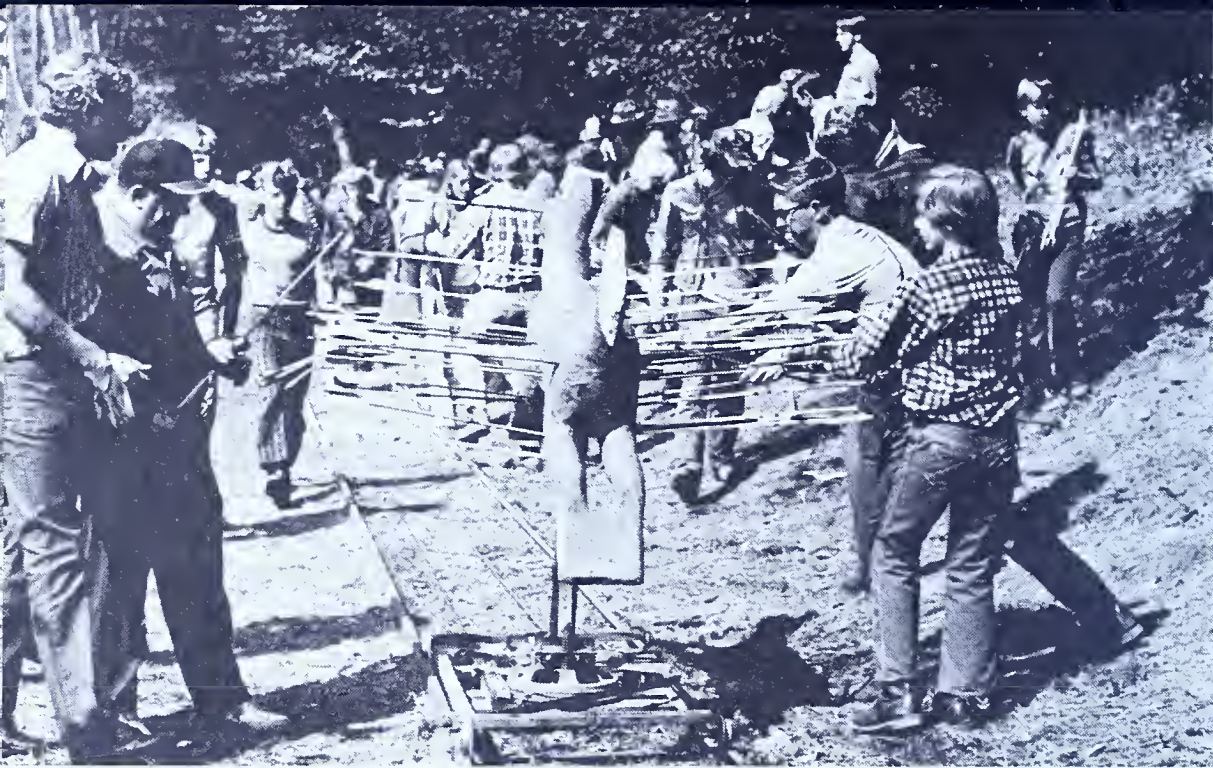
In spite of my earlier warnings about drinking strange water, Pennsylvania still has an abundance of sweet mountain water. Nature's water system is the lifeblood of all living things. Human beings are attracted to it for survival and pleasure just as flowers turn their faces to the sun. The protection and preservation of our state's good water is worth every minute of time we devote to it. Without the rivers, brooks, springs and "cricks" to hike beside, it just wouldn't be Pennsylvania . . . would it?



WILLIAM E. RITCHEY, RD 2, Hopewell, took a 125-lb. doe last season—the 95th deer for this 91-year-old sportsman who has spent 77 seasons hunting in Pennsylvania, Virginia, West Virginia and Canada.



SETH L. MYERS, of Sharon, a nationally recognized conservationist and outdoor writer for many years, was honored in June when the U.S. Army Corps of Engineers dedicated the new "Seth Myers Nature Trail" at Shenango River Lake in Mercer County. The trail, a self-guided, interpretive nature walk of about one-half mile, is the first ever in the Corps' Pittsburgh district. The dedication was a complete surprise to Myers.



THREE-DIMENSIONAL TARGETS that move along track are favorite "game" for many Forksville archers who prefer informal shooting to colored paper targets.

Archery Gala Celebrates 20th Year . . .

Fun at Forksville

By Keith C. Schuyler

Photos from the author

WHEN AN EVENT is so popular that it draws enough people to nearly double a county's population, that's news! And when it's entirely concerned with archery, and is the biggest such participating event in the world, it is of sufficient interest that archers everywhere want to know about it.

The Forksville Bowhunters Festival will mark two successful decades when it opens September 24. This success is quite remarkable in view of the difficulties involved. Something like 500 unpaid volunteers are needed to bring it off properly—and that's about eight percent of Sullivan County's population! And then there's the dampening fact that rain has fallen in 14 of the festival's 20 years. As with all large gatherings, there are traffic jams, sanitation and water problems. . . and so on.

So why does the old crowd come back each year, along with new visitors from Pennsylvania and her neighboring states?

Maybe some return for the excellent chicken dinners that have long been a part of the event. A raccoon hunt drew some, but that has been discontinued because these animals are no longer in season during the festival. Many return to hunt the feral pigs which pass for Russian wild boars, simulating them in temperament right down to the last quarter-inch of tusk. Others come with bulging wallets to take advantage of excellent bargains in archery tackle at booths set up for the three-day festival. Still others may simply enjoy the fellowship. A meeting ground for national and world champions, the event has also given many youngsters a chance to sling their first arrows at a

target. But, whatever the reasons, they keep coming.

And they have been coming in increasing numbers since the idea of the Bowhunters Festival germinated in a conversation between Kenneth B. Lee and Bell Holcombe in 1956. They felt there should be activities for bow hunters besides just the regular hunting seasons. At that time bow hunting season was much shorter than today. In any event, the idea grew, and the first festival was held in September of 1957. There were about 200 participants. Last year 2400 took part in the informal shooting activities lasting from Friday afternoon to Sunday evening. In addition, there were some 3000 spectators.

Although handling and shooting a bow involves certain hazards, there have been no serious shooting accidents during the 19 years of the unusual event.

The Sullivan County Fairground has benefited tremendously from the income generated by the festival. It has come from a shaky financial existence in the year the festival was conceived to a sound county facility that enjoys other activities in season. The festival is primarily sponsored by Sull-Bow Buck and the Sullivan County Chamber of Commerce, but many more get in on the act.

The village of Forksville is approximately 30 miles above Williamsport on Route 87. You can come in from the south on Route 42 through Muncy Valley, or take 87 southwest from Dushore. Those coming from the northwest can come in directly on Route 154 through Canton and Estella. Because there is such a crowd, many oldtimers have resorted to self-contained campers. Those looking for a place to stay can contact Mrs. Gerald Taylor, Dushore, 18614. She will do everything possible to provide for your

comfort, as she has for most of the last 20 years.

The chicken dinners are a real attraction, as popular with spectators as with participants. Last year, 3000 dinners were served. Bill Gregory of the Pennsylvania Agricultural Extension office has managed this feature since the first year.

In addition, a large refreshment stand is kept busy throughout the festival hours, with prices consistent with those outside the fairgrounds.

Arrows Big

The exhibit buildings are rented to commercial operators associated with the archery business. Traditionally, competition produces bargains for the visitors and there is a steady stream of potential customers through the buildings. Anything new in archery is usually exhibited. Arrows are the big item since thousands are smashed on the three rocky field courses or against the mechanical apparatus which operates the moving targets.

Shooting at the running deer is by far the most popular attraction. It is not unusual for archers to be standing three deep behind the 50-plus stakes, awaiting a turn to shoot. Three-dimensional lifelike deer are provided as targets at a range of 45 yards. Even at this distance, hits are frequent and targets must be changed from time to time as they are ripped apart by arrows.

Ellery Weaver, now retired, begins making the burlap-covered styrofoam targets as soon as one festival is over so that there will be a sufficient supply for the next festival. Shortly before the event each year the new targets are trucked to a farm in Forksville for painting.

In addition to the deer targets, there is an animated setup for moving foxes, raccoons, turkeys, etc. Also, there are mechanical pop-up woodchucks, climbing squirrels, and flying ducks. For those who must await a turn on the animated targets, a considerable section's devoted to stationary targets. Targets on the field courses are also three-dimensional.

From a beginning of six feral pigs at the first festival, last year 25 animals



were brought up from Georgia and Florida swamps for the hunt which attracts as many as 800 at a time. Each hunter must have a current Pennsylvania hunting license.

Although there are no individual contests, a team shoot is held at the running deer with the best bow hunters from each club vying for cash prizes.

Currently heading up all this activity is William Feese, Eagles Mere schoolteacher. He succeeded Raymond Watts, Eagles Mere, who had co-chaired the event for many years with James Schoch, first general chairman.

Publicity is managed by K. B. Lee, Dushore; Robert and Twila Starr, Laporte, handle registration and exhibits.

Cash prizes are awarded to clubs placing in team archery competition, and to those with the largest registration for the festival weekend. The abundance of activities in recent years has crowded out the Festival Queen

contest, long a popular event.

Each year some notable person or event highlights the archery weekend. Last year Oregon's Gary Sentman set a new world record for single-arm draw during an exhibition in the arena. Sentman had worked out with a bow of 150 pounds for three months before making the big attempt in front of the standing-room-only crowd at Forks-ville. His effort almost didn't come off, as the first bow stringer broke while he was attempting to brace the hickory longbow. Then, with the bow finally strung for shooting, the tremendous pressure caused the nock of the measured arrow to curl.

Second Try

However, on the second try Sentman drew the arrow 28¾ inches. The bow had officially been weighed in at 174 pounds at 27½ inches and it increases four pounds for each inch of draw near the peak. Consequently, since the bow weighs 176 pounds at 28 inches, the actual draw by Sentman was greater than this weight.

Although it has been reported that Howard Hill unofficially drew 200 pounds before witnesses, his official record was 172 pounds, set in 1932.

Sentman's bow, a replica of the English longbow, is made of five laminations of hickory with fiberglass for both backing and facing. The string was constructed of 28 strands. (Most hunting bows use about 14 strands.) The arrow, marked in inches so that the actual draw could be calibrated, was not released.

John Schulz, owner of Longbow Manufacturing Company, demonstrated fancy shooting prior to Sentman's exhibition.

Since funds are provided to bring in top archery personalities from all over the United States and Canada, the festival gives all who take part an opportunity to rub elbows with the greats and near greats in archery. The program is usually handled by Clayton B. Shenk, executive secretary of the National Archery Association, who formerly served in the same capacity for Pennsylvania State Archery Association.



JOHN LANKS, of Jersey Shore, was successful early on the feral pig hunt. Last year, 25 of these wild animals were brought from Georgia and Florida swamps for this hunt.

Camouflage clothing seems to be the order of the day at Forksville. Since the festival closely precedes the regular bow hunting season for deer, participants are really in the mood for action. This year the festival has been set back one week since hunting licenses will not be available until then. The later date just might miss the usual rain!

Proceeds from the festival will again be distributed among various agencies in Sullivan County. Profits have been responsible for the attractive indoor stadium, the roofed-over dinner area and a number of other improvements on the fairgrounds. In addition, both the Boy Scouts and Girl Scouts have benefited, as well as eight volunteer fire companies. Boy Scout Camp Brule has been supplied with archery equipment; Sullivan County Teen Center in Dushore has been provided with sporting equipment; Sullivan County Loan Closet, for which rent is paid by festival proceeds, has received wheelchairs and walkers through this archery activity. So, it is not surprising that many in the county turn out to help.

Fire police are used for protection on the grounds. Countless other volunteers are needed to operate the animated targets, in addition to the many other chores connected with the event. It goes almost without saying that every commercial establishment within a considerable radius of Forksville benefits from the spillover of the huge crowd which jams into the narrow valley along Loyalsock Creek.

Congratulations are certainly in order for all those who have over the years helped to make this the number one archery event for those who like to do things their own way, without the



GARY SENTMAN is congratulated by **John Schulz** for setting a new world's record single-arm draw. On his second try, Sentman drew over 176 lbs. to surpass Howard Hill's official record.

pressure of formal competition. Many archers look forward to it as the biggest holiday of the year. But, no matter how you regard it, it's big fun at Forksville.

For Beginners

Bernhard A. Roth's new book for archery beginners is appropriately enough entitled, **The Complete Beginner's Guide to Archery**. There are 180 pages of text and photos which bring the beginnings of archery into focus for the newcomer to get him headed in the right direction. Doubleday & Co., 245 Park Ave., NYC 10017, \$5.95.

17th GCO Class to be Recruited

The Pennsylvania Game Commission has approved the recruitment and selection of applicants for the 17th class of Game Conservation Officer Trainees (District Game Protectors). Training will be conducted at the Ross Leffler School of Conservation near Brockway, from July 1977 to June 1978. Official announcement with complete details will be made in late August by the Civil Service Commission. Applications may be obtained from the State Civil Service Commission offices; Inter-Governmental Job Information Center, Harrisburg; local offices of the Pennsylvania State Employment Service; the Game Commission's Harrisburg or field division offices, and the Training School at Brockway.

**Where do the 6mm cartridges belong?
Should the 243-caliber bullet be
classified for . . .**



AS RALPH RAMOUNT WATCHES, Harold Iseman touches off shot with his M700 Remington 6mm. Fully adjustable chuck rest is made by Cravener's Gun Shop, Ford City, Pa. Ramount's rifle is a Savage M112V in 243.

Varmint, Big Game or Both?

By Don Lewis

Photos by Helen Lewis

I SUSPECT that during every hunter's career there's one episode that stands out like a sore thumb. Personally, I'm willing to forget the grouse, ringnecks and rabbits I failed to stop, but I can't forget an aged-looking chuck that repeatedly doused my shooting ego with buckets of cold water. I nearly resorted to digging the old rascal out with a pick and shovel. I sure blew several fine shots. Trouble was, it was an extra long shot, and every visit found me trying to figure out a heavy cross wind. I walked so many times to the den thinking I would find a dead chuck only to stare at a gaping hole, that I nicknamed the big digger the Gray Ghost.

This was back when I was still amazed at the power and speed of the

new 222 Remington cartridge. After using the 22 rimfire and the 22 Hornet, moving to the faster 222 led me to think distance and wind would not be a factor. I wasn't experienced enough to know how susceptible the light 50-gr. 224 bullet is to a wind that's moving the clover tops. All told, I sent five 50-gr. bullets pushed at nearly 3300 fps toward the chuck without getting anything more than the exercise of walking to the den and back. I blamed everything but the right thing; the lightweight bullet simply was no match for the elements.

This comment on the 222 may up the blood pressure of some of its owners, but that's not my intention. The 222 is a terrific cartridge in regard to both range and accuracy, but the fact was I

needed something with more bullet weight. A hunting buddy brought the saga of the Gray Ghost to an end with his Model 70 Winchester. Conditions weren't radically different from the ones I faced, nor was his 243 slug traveling much faster; the 90 grains of weight spelled the difference. Now, one shot didn't change my opinion about the 222, but it brought me to my senses about trying to make one cartridge do all jobs.

The 6mm cartridge is relatively new for the modern hunter, but it's not a brand new bullet creation. The 6mm Navy cartridge existed before the turn of the century. It was an impressive looking centerfire, with a 112-gr. jacketed bullet shoved out the muzzle at 2550 fps by 36 grains of smokeless powder, which was moving right along then. The U.S. Navy rifle was a Lee Straight-Pull made by Winchester.

All types of arguments are made about the 6mm cartridge, and each side is more than willing to condone or condemn. Getting through the smoke to the heart of the matter shows the problem with the 6mm is classification. It's beyond human capabilities to make a single cartridge that's completely suitable for all types of game. After being involved for three decades with shooting problems, I've come to the solid conclusion that the 6mm is seen in two different categories. One faction sees it as varmint/big game outfit, while another dedicated group sees it as big game/varmint. That might sound confusing, but it's the crux of the whole matter. I'll explain later where this difference in opinions may have had a critical effect on one of the 6mm's.

While personal emotions seldom settle anything, at least they lend a certain flavor to problems that could become

lost in ballistic ballyhoo. That brings up the question of whether ballistics prove the 6mm cartridge is a multiple choice. This could become a one-sided argument, as any bullet weighing 60 grains or more zipping along at over 3000 fps will dispatch a woodchuck in a hurry. We don't need ballistic proof for that. Any question about the cartridge's killing ability must be confined to the big game area, and big game in Pennsylvania means white-tailed deer and black bear.

Delve Into Background

Right here seems a good spot to delve into the background of the two original factory 6mms that stirred up the controversy. Both the Winchester 243 and the Remington 244 saw the light of day during 1955, right at the time thousands of service people were picking up their hunting reins. Both cartridges got off to a good start, but the 244 Remington's sales began to slide when adverse publicity that had sound ballistic basis showed the 1-in-12 twist of the 244's barrel was too slow to stabilize bullets weighing over 90 grains. Life was pumped into the Remington version by changing the barrel twist to 1-in-9 and renaming the cartridge 6mm Remington.

After handling several dozen of each company's outfits, and doing a lot of range testing, I concluded there was a different psychological approach between Winchester and Remington. This may seem a trivial point, but the 6mm cartridge was getting rave notices about being an all-purpose or combination load, yet the distinct weight difference between the lightweight Model 70 and the heavy Remington 722 took Remington right out of the big game hunting picture. I had a M722 that weighed close to 10 pounds with a scope, and no deer hunter will lug that kind of weight. The hunter pounding the brush and high hillsides was looking for an easy-carrying hunting rifle, and Winchester offered it in the Model 70.

It's common knowledge the shooting clan will bicker over what could be termed insignificant differences. Years ago, complete evenings were con-



sumed by arguments between 30-30 and 32 special factions. There's no real difference between them, but the battles were still fought. The same battle lines have been drawn over the differences between the 6mm Remington and the 243 Winchester. To add to the confusion, there's a mixup over what Remington did when it went from the old 244 to the new 6mm. Actually, all that happened was a change in barrel twist and name. The 244 and the 6mm have the same case.

Some points about the Winchester and Remington cartridges might help both factions understand the situation a little better. There are differences between the cases. One is powder capacity, and the other is the physical makeup that has some ballistic value and could be interesting to the dedicated handloader. While this may quicken the heartbeat of all 6mm owners, these revelations will not prove one cartridge far superior to the other.

The Winchester 243 is a necked-down version of the Winchester 308

(NATO 7.62) cartridge. The Remington creation is basically a necked-down 257 Roberts. The ado over Remington's case accepting two or three more grains of powder has led a long line of hunters into falsely thinking the 6mm's bullet will leave the 243 somewhere in the dust. The 243's powder cavity measures some .192 cubic inches, vs. .205 for the 6mm Remington. If this startling discovery puts despair in the hearts of 243 owners, I'm sorry, but I have to stick with published facts.

Neck Length and Shoulder Angle

The second part of the case controversy deals with neck length and shoulder angle. Being a dedicated wildcatter, case dimensions warm my heart. "Improving" a cartridge usually means cutting the rifle's chamber to a sharper neck angle and then fire-forming the case to fit. The advantage is not so much the increased powder capacity, but that sharper neck angles tend to enhance the performance of slow-burning powders. Remington's 6mm case has a total length of 2.233 with a 26-degree shoulder angle. Neck length is .350. Winchester's .243 is shorter, measuring 2.045 with a 20-degree angle, cutting the neck length to .240.

Now that two distinct advantages for the Remington 6mm have been established, why are there so many 243s? I've already stated these so-called advantages are not that important, but they do lend credence to the simple fact all of us are misled by paper figures. Not that the published data is incorrect, but what happens in one rifle with a given load may not act the same in another rifle of the same brand. I've fired hundreds of carefully loaded rounds through a variety of chronographs without getting duplicate results. Printed figures are really only approximate and in no way can be considered ironclad facts.

The trifling variations in these two cases will not make one a better deer outfit or add an extra hundred yards on a chuck shot. While the Remington 6mm does have the advantage in case capacity, this will not increase velocity



M77 RUGER bolt action is made in both 243 Winchester and 6mm Remington, so hunter has a choice between these slightly different cases. Though neither is Lewis's favorite deer cartridge, many hunters prefer them.

by more than 150 fps with max loads. For instance, in several of my rifles, 50 gr. of 4831 will push a 75-gr. HP bullet out the 243's muzzle at 3398 fps. The same load and bullet in the 6mm hits a lower velocity of 3275 fps. On my Ohaus Dial-O-Grain scale, the 6mm case held just 1.2 gr. more of 4831 than did the 243.

The argument about case sizes and physical dimensions holds the spotlight most of the time, but bullet construction really should be the concern of the big game hunter using one of the 6mm cartridges. Also, there is a great deal of comment about powder charges, Magnum primers and brass flow. All of this may be important, but the fact remains that the bullet is strictly on its own from the time it leaves the muzzle until it reaches the target. All the factors involved in getting the bullet out of the case and through the barrel are important, and I must admit it's important to have the correct barrel twist, but unless a bullet is capable of making a clean quick kill, it's wrong to use it.

From the hunter's side, bullet construction has to be a paramount factor, and should get more concern than case design. Heavy bullets do not shoot well from barrels with slow twists, but this pertains more to bullet stabilization than to killing power. Boil this down to one bare fact, and it will show that accuracy suffers in this situation, and not kinetic energy. Under- or over-stabilization may play havoc in long range varmint shooting, but the big game hunter on a hillside in Clearfield County will never miss a sneaking buck due to poor bullet stabilization.

Primarily Varmint Getters

Sometimes it seems I'm forced to saw the limb out from under myself; perhaps I'm doing that here with the 6mm outfits, but I still think of them primarily as varmint getters. This is a tough statement to make when there's plenty of evidence to prove me wrong, but I'm basing my case on the belief that the heaviest 6mm bullet is too light for all types of Pennsylvania deer and bear hunting. Somehow, I feel a 105-gr. bullet is on the light side for big

game that often requires running shots. It all goes back to my worn theory that the bullet should do the job under most conditions and from all angles.

A friend of mine hunted four successful seasons with the 6mm cartridge and then bought a 270. Why the sudden change from an outfit that had apparently done the job? Without going into a lot of detail, it was bullet failure. Not that the bullet disintegrated in every case, but more that it lacked the ability to penetrate and still hang together. Believe me, I'm not attempting to throw a wrench into the sales of the 6mm cartridge, nor am I completely against using the 6mm for big game, but I am for telling the hunter what he or she should know about this cartridge. My friend wasn't satisfied with the killing power of the 105-gr. bullet, and decided 130- or 150-gr. slugs from the 270 would be more effective.

Accuracy

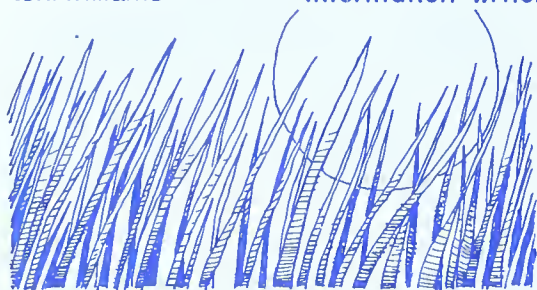
It would be unjust not to say something about accuracy for the 6mm cartridge, but it also would be improper of me to suggest it will shoot groups far below one inch at 100 yards. I've done that occasionally when a good load was mated with a good rifle. But on the average, I see today's 6mm accuracy as 1½" for factory fodder and perhaps down to ¾" with some of the heavy barrel versions using top reloads with match bullets.

I'm sure the controversy over the 6mm cartridges will not die soon, nor will this article do much more than add fuel to an already hot-burning fire. With Winchester seeing the 6mm cartridge as a combination outfit using all weights of bullets (the reason for the 1-in-10 twist in the Model 70), and Remington thinking in terms that the 6mm cartridge is best designed for bullets ranging in weight from 75 to 90 grains (the reason for the 1-in-12 in the original Remington Model 722 244), I have to go with Remington. The way I see it, the 6mm's cartridges are long range varmint outfits that are not completely at home in the big game woods of Pennsylvania.

In the wind

toni williams

information writer



"Get 'em where they breed" is the story, and where the waterfowl breed is—for a large percentage of the U.S. populations—Canada. So Ducks Unlimited has announced a \$68 million program for wetlands development in Canada, with funds being raised over a five-year period in the states and forwarded to the organization's northern counterpart. In its 39-year history, DU has been responsible for saving well over two million acres of wetlands, a vital and rapidly-diminishing habitat type.

The Massachusetts House of Representatives defeated a proposal to ban nonreturnable bottles. Several states are considering such legislation and three already have it on the books. In Oregon, litter has decreased dramatically since throwaways were banned, and new jobs are created by returnables, generally in less skilled occupations.

The Colorado Division of Wildlife had been selling \$5 conservation stamps since 1974 to support non-game wildlife programs. They've been surprised to find that 63 percent of the stamps have been bought by hunters and fishermen. Only a few non-hunter-oriented groups have strongly supported the non-game program. The Division's non-game supervisor comments that "the people who complain the most about the status of non-game animals in Colorado are being hypocritical in the sense that they're doing the least to help those animals." Funding sources for non-game programs are a current problem in many states.

Weaknesses in west coast distribution systems may force exportation of Alaskan oil which conservationists were recently assured was so vital to national defense. Alternatives to exportation to avoid a "glut" in the west include construction of a 1700-mile pipeline through Canada, a pipeline from Puget Sound to the midwest, or one from Los Angeles to Texas. Pending legislation may force several agencies to develop a plan for distributing Alaskan oil.

To lessen their impact on the environment, Scouts and Explorers throughout the U.S. are being urged to do their camping in smaller groups. This suggestion is part of an eight-point wilderness policy, actually adopted two years ago, which is currently being reemphasized. Other changes to the "traditional" Scout camping techniques include strong recommendations that backpacking chemical stoves be used, especially in areas of limited wood supply; that biodegradable food containers be carried; and that holes be dug only if needed for latrines.

Two Massachusetts cities are already making a profit on their "source separation" trash recycling system. Citizens take about 2½ minutes a week to keep trash divided into paper, metal and glass, and other materials. Two trash trucks—one for recyclable trash, one for the rest—plus the processing plant represent the cities' part of the cooperative program. Residents' minor investment of effort makes this type of program much more profitable than one requiring special facilities for separating wastes. About 30–40 percent of trash is recyclable, and the cities expect the program to become even more profitable with time and experience. Seattle, taking another tack, is beginning a project to convert the city's non-ferrous trash into saleable methanol or ammonia.

It's no surprise to many people that much land for wildlife is lost each year. Another nine million acres were plowed up by American farmers last year—"soil bank" land, grassland and woodlands. Such animals as pheasants, woodchucks and rabbits prefer the open country, but even they need nearby cover to survive, and modern "clean farming" eliminates this.

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A 10-Day Unit

To supplement environmental education curricula, the Pennsylvania Game Commission has developed a 10-day teaching unit, *Wildlife and the Environment*. Its primary design is for the secondary school level, but it can be adapted for lower grades, Scout groups, and other organizations interested in environmental education. Single copies are free, multiple copies are available at 25 cents each from the Pennsylvania Game Commission, Division of Information & Education, Box 1567, Harrisburg, Pa. 17120.

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PENNSYLVANIA
GAME NEWS

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COVER PAINTING BY TAYLOR OUGHTON

Plumes of mist rise from the water as an early morning waterfowler sets out decoys. The scarred old veteran drake in the foreground exemplifies a long tradition of carefully-carved and painted likenesses cherished by craftsmen/hunters. Modern decoys of plastic, cork or rubber have some advantages over the old, heavy wooden birds, especially for hunters with neither the time nor the skills to produce a number of mini-masterpieces. But they can't compete with old-style decoys in heauty and tradition. As they are retired from active service, many of these decoys are added to collections or used as decorations around the home.

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Time to Start Acting

OCTOBER IS THE MONTH in which most small game species become legal game. Doves and rails came in earlier and woodchucks have been available to hunters since mid-June, but Pennsylvania's "traditional" small game—pheasants, cottontails, squirrels and grouse—all become huntable sometime during October. All of which makes this a great time to be afield, even if we don't consider the natural glories typical of this season of the year.

Yet there are problems too. Practically all of them are of our own making. For some reason, too many of us, as soon as we get our feet off a concrete sidewalk and into the woods, immediately assume we're on a frontier somewhere, unaccountable to anyone, completely free to do anything we like. And there often seems to be an irresistible urge at a time like this to violate rules and regulations. Maybe it's a psychological thing that somehow associates a day free from work, traffic, too many people, etc., with irresponsibility—like a kid breaking a window in an empty building on a Saturday afternoon just to hear the crash, see the glass explode.

But just as that empty building belongs to someone—someone who is angered by the broken window—the fields and woods in which we hunt also belong to someone. And when a farmer sees a hunter damaging a fence, leaving a gate open, gunning a 4WD across a field, leaving the "cleanings" of a couple dozen doves in a pile, or just plain littering, he's just as sore as the city man whose property was damaged. And rightly so. No one has any right to do these things. Yet some of us go on our thoughtless ways . . . creating enemies.

Only a small percentage of hunters do these things, of course. But it's not enough to be a non-litterer, a non-game hog, a non-violator. To not do such things is normal for a true sportsman. Most kids don't smash windows either. What we need is sportsmen who do something positive when they see others acting thoughtlessly or illegally. It's not enough to complain to a friend when we see someone do something which will reflect adversely on all hunters. We have to start pointing out *to the violator* that such actions can close a farm to hunting or bring about further restrictions on hunters—possibly even a high degree of gun control. If the offender doesn't believe such a result is possible, we've got to have the facts to reason with him. If he doesn't care what the outcome can be, we have to have the guts to make a formal complaint if his acts were illegal and, if necessary, appear as a witness.

Such a course will be a radical change for most hunters. All of us have witnessed unsporting or questionable or illegal acts—and probably deplored them—but few of us have accosted the perpetrators. This takes a different kind of thinking, a different mental attitude, a determination to ensure that hunting as we know it will continue. But I don't think the job is as difficult as it now seems. Once the slob hunters learn that a nearby hunter is just as likely to haul them before a magistrate as a Game Protector is, there will be far fewer slob hunters.—*Bob Bell*



Gary Wilson

You Can Go Home Again

By Rick Methot

"HERE he comes!" Paul shouted. I swung the 20-ga. Ithaca pump to my shoulder and tried to zero in on the blur of fur that exploded out of a briar patch to my left, zipped past my boot tops, and disappeared into the thick cover to my right. I could see it only for brief moments as it skittered through the brush.

My quick three shots brought a familiar question from my hunting partner. "Did you get him?"

"He's still running," I mumbled, knowing I'd have a tough time coming up with a satisfactory alibi to account for three misses at point-blank range.

"He probably thumbed his nose at you as he went by," Paul chided.

"I think I shot behind him," I added lamely.

We were opening Pennsylvania's small game season in the rolling farmland of southwestern Susquehanna County. Paul Kipar was home at his family's farm for the weekend, taking a breather from his studies at Mansfield State College. I live in New Jersey and work in New York City as an associate editor for an outdoor magazine. My wife and I were both born and raised about 40 miles from where we were hunting, and we own a small piece of land near the Kipar place. I get back to hunt in Pennsylvania as often as possible.

After getting out for squirrels and grouse the previous weekend, I had been eagerly anticipating cottontails and pheasant on the regular small game opening day. I felt somewhat uncomfortable with the 9 a.m. starting time, as I like to be in the woods early. I was about to offer the late starting hour as an excuse for my poor performance, but decided I could tuck it away and add it to my alibi list for next opening day.

Paul had invited me up to hunt on his place and I quickly accepted. He's spent all of his life in and around this area and knows the countryside as well as he knows the number of milkers he

takes care of back in his father's barns.

I met him about 8 o'clock, while he was hurrying to finish morning chores. Paul is lean and fit from years of hard work and doesn't mind getting up in the middle of the night to get his chores done so he can go hunting. I'm a pencil pusher in an office and have a few years on him, which is poor preparation for such work, but I did my best to help out with barn duty that morning.

"I haven't seen many rabbits this year," Paul said as he spread hay for the cows. "We might try the briar patches and thickets down near the swamp," he added. "If they're anywhere, they should be down in that stuff."

"How about woodcock and grouse?" I asked, trying to look busy with a broom.

"Haven't seen many around here, but there are plenty up near school this year," he answered.

"Terrific," I said. "That's only about 70 miles away. You're like the guy who always says, 'You should've been here yesterday.'"

Underway

We finally got underway shortly after 9 o'clock. The muffled echoes of shotgun fire and yodeling hounds were drifting through the hills to break the silence of the crisp October morning.

I parked my mini-pickup at the end of a dirt road. Hedgerows separated it from cut cornfields to our left and pasture to our right. We decided to work opposite sides of a rock wall which was edged by oak trees and thorn bushes. The wall ran about 200 yards toward the swamp that Paul had mentioned earlier.

"Should be some squirrels in here," I said, studying the treetops that reached out over the edges of the cornfields. I had taken my limit of bushytails the previous Saturday in a nearby field where some corn was still standing.

We moved the length of the wall, stopping often to kick through a briar



PAUL MISSED the only grouse we had shooting at all day. He wasn't happy. The bird had thundered out from under an old apple tree and headed for the next county.

patch, without putting anything out. I told Paul I'd cut to my right about 50 yards and work down through a section of alders.

I soon heard Paul's shotgun shatter the silence.

"Rabbit," Paul yelled. "He ran right into a hole in the wall and I missed him clean."

I continued on my own, wincing every time I crunched down on the dry leaves covering the ground. I was lifting my boot to avoid cracking a dry twig when a fat gray squirrel rustled from the base of a large oak and bounded across a downed tree trunk about 20 yards in front of me. My shot rolled him to a stop.

Paul's shotgun blazed at almost the same instant, but I didn't call out to him . . . I was waiting to see if another bushytail would show himself. A minute later Paul shot again and I couldn't resist finding out what had happened. I whistled to indicate I was coming his way and broke through the alders to find him admiring two plump woodcock.

"I about stepped on both of them," he grinned. "I was lucky to get 'em in this thick stuff."

"One reason we should be out here with a good dog," I said.

We hunted for another half-hour without seeing anything except a pair of grays that outsmarted us and hid in the top of a tall pine. We tried all the tricks for dislodging sitting squirrels, but had to concede defeat to the bushytails.

A short walk through an open area dotted with briar patches produced the rabbit episode that I described at the beginning of this story. Paul then suggested that we hunt an upper field bordered by thick woods and a pasture that was dappled with briar patches before quitting for lunch. We'd just begun working from patch to patch, walking about 100 yards apart, when I heard Paul shoot.

He wasn't happy, I found out later, about missing the only grouse of the day. The bird had thundered out from under an old apple tree and headed for the next county.

"I never expected to find a grouse up on this hill," Paul said. "It was an easy shot and I blew it."

"Now we're even," I said, remembering my rabbit fiasco.

We decided to break for lunch and were getting close to the truck when a cottontail tore out of a thicket in front of us. Paul shot first, then I fired. The bunny was still traveling. The second shot from my pump stopped him.

"That was a pitiful performance," I said, remarking on our shooting.

"It's not like busting claybirds on a summer Sunday," Paul commented with a grin.

We took a few minutes to clean the rabbit, two woodcock and squirrel we'd bagged, then climbed into the truck. "A fair morning," I ventured.

"The day's not over yet," Paul said optimistically.

Quick Hunt

We'd driven only a mile or so when Paul suggested we make a quick hunt through a small piece of cover near the road. It was a fine idea, as events quickly proved. Moving through a thicket along an old tractor path, we flushed a hen pheasant—legal game in this part of the state—which Paul dropped before it got more than shoulder high. And then as I angled toward him through some brush

bordering the edge of a field, a second hen took off not far ahead of me, and I centered it in my pattern.

"Easiest pheasant dinners we'll ever get," I grinned, admiring the plump birds.

I had a prior commitment to meet some friends for lunch a few miles away, so Paul and I agreed to resume hunting about 2 p.m. I returned to the area about 1:30 and decided to work the edges of a cornfield before looking for Paul.

Gray In a Fork

Enough cornstalks were still standing to keep the squirrels around, so I slowly covered the outer edges of the corn, keeping an eye on the trees bordering the rock wall that surrounded the field. I was just starting down a gentle slope, walking through the stubble of stalks that had already been cut, when I spotted a gray sitting in the fork of a tree about 30 yards below me. Quickly dropping him, I remained in a shooting position and was rewarded with the sight of another bushytail scampering across the top of the wall and heading for a large tree. I swung and collected the second gray. I had learned during my long-ago days as a teen-age hunter that it's a good idea to remain motionless after downing a squirrel. Often a second, and sometimes a third squirrel, will dart out of the same area.

I found Paul and his fiancée Sue near a clump of briars where Paul was busily dressing out a pair of rabbits.

"Sue got one with the 22," he said proudly. It was her first time out and she had neatly dropped the bunny with a single shot.

The three of us headed toward another swampy area that was grown with thick brush. We had covered a few hundred yards when I saw Paul and Sue circling the base of a large, leafless tree. Paul pinpointed the bushytail in the upper branches and Sue nailed the squirrel with another shot from her rifle.

"She's putting us to shame," I said as I congratulated Sue on the shot.

Paul and I decided to work through some thick cover while Sue walked an

old tractor path about 75 yards above us and to our right. We pushed through the thicket without flushing anything and finally came to the edge of a small cornfield that belonged to a neighbor of Paul's. Paul immediately spotted a squirrel hightailing it across a rock wall and into a big tree.

"He's in a hole with just his head sticking out," Paul said. "I can't shoot because he'll probably just drop back into the hole if I hit him."

I circled to the opposite side of the tree and sat down in the field while Paul tried to roust the squirrel around to my side. It worked and I shot quickly when the gray raced along a limb on the side nearest me. I waited a moment and when he didn't drop, I thought for an instant that I might've missed. The squirrel, however, was lodged in a fork about 30 feet up—Paul had to climb the tree to get him.

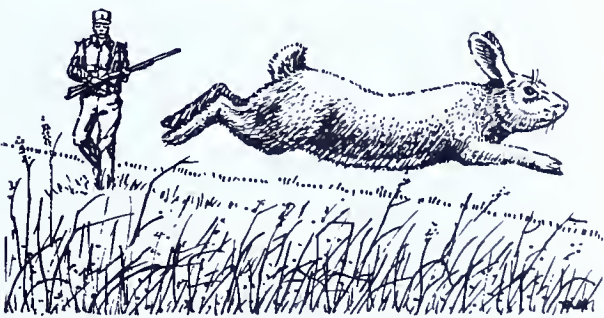
"You're better than any squirrel dog," I said. "You go right up after 'em."

It was getting to be late afternoon and Paul had to get back for evening chores, but we agreed to work one more thicket before calling it a day. The three of us were walking in line, with Paul and Sue to my right, when a bunny banged out of the brush to my left. I swung and fired in a single motion and dropped the running rabbit with one shot.

"Nice shot," Paul said as I went to retrieve the rabbit.

"Makes up for this morning," I smiled, pleased with myself.

IN LATE afternoon, we agreed to work one more thicket before calling it a day. A bunny banged out of the brush to my left. I swung and fired in a single motion and stopped it with one shot.



We split up and worked opposite sides of a thicket when I saw Paul swing up his gun and fire. Another one-shot dinner. A second bunny exploded behind us and Paul wheeled around and stopped this one with his second shot.

"You're doing great," I shouted.

It was nearly time for Paul to quit. I wanted to try the upper cornfield where I took the two grays after lunch. There was only about an hour of legal shooting time left and I wanted to get the most out of my one-day-a-week in the woods.

I hadn't gone more than 50 yards when I spotted a squirrel scampering across the corn stubble. I hit him in mid-air as he jumped onto a tree trunk about 30 yards in front of me.

My day ended with a futile shot at a speeding cottontail bounding through the cut corn. I thought it was a fitting way to end the season's opener as the bunny disappeared over the crest of the field. "You win," I said half-aloud. We headed for the truck.

Between the three of us we had collected a fine mixed bag of rabbits, squirrels, pheasant, and woodcock—not bad for a Saturday in the woods. Days like that make me realize that the 300 or so miles that I put on my pickup to return to my native state every hunting weekend are well worth it. The nonresident license fee doesn't bother me a bit either—I get my money's worth in sport, game dinners, and the pleasure of "being home."

Book Review . . .

Gun Digest, 31st Edition

As always, this big annual gun book is chock full of top reading for shooters, collectors, hunters—any and all groups who devote much of their waking time, and perhaps some of their dreams, to firearms. Long-range riflemen will be intrigued by Dan Flores' article on Civil War sharpshooters and Bob Bell's piece on 1000-yard chuck shooting, while shotgunners will wishfully ponder the graceful complexities of the fourbarrel Famars 28-gauge described by Roger Barlow and the long-range efficiency of Ithaca's Mag 10, as reported on by Wallace Labisky. There are articles on collecting Rugers (a comparatively new field) and French cannons (small replicas, but cannons nevertheless!); there's dope on shooting in Scotland, the economic impact of firearms in frontier America, a long account of trials and tribulations with the fantastic Auto Mag Pistol, even a shortie on that fabulous ol' gunwriter/shooter himself, Elmer Keith. If that's not incentive enough for Pennsylvanians, Don Lewis has done an in-depth piece on 22 rimfires for squirrels, Nick Sisley discusses shotgun patterning tricks, and both covers are given over to the new Pennsylvania Longrifle which Lewis described in his July GAME NEWS column. (*Gun Digest*, 31st ed., edited by John T. Amber, DBI Books, 540 Frontage Road, Northfield, Ill. 60093, 448 pp., \$8.95.)

The Experts Book of Big-Game Hunting In North America, edited by David E. Petzal, Simon and Schuster, 630 5th Ave., NYC 10020, 223 pp., \$10.95. Top information on hunting antelope, bear, caribou, elk, moose, whitetails and mule deer, sheep and goats, from Jim Carmichel, Warren Page and half a dozen other top guns.

The American Sporting Collector's Handbook, edited by Allan J. Liu, Winchester Press, 205 E. 42nd St., NYC 10017, 239 pp., \$10. The first book of its kind, this is a guide to collecting in 21 outdoor fields, including art, engravings, guns, decoys, books, knives, rods, reels and similar sporting accoutrements.

Hunting Big-Game Trophies, by Tom Brakefield, E. P. Dutton, 201 Park Ave. South, NYC 10003, 446 pp., \$10.95. A great deal of information on hunting many kinds of North American big game—real down-to-earth stuff based on personal experience. Covers important areas most writers avoid, such as getting the most out of outfitters, do's and don'ts around camp, how to cut costs, hints on horses, cameras, films, taxidermists . . . There's little, if anything, about a big-game trip that isn't commented on here.

Granny's The Greatest

By T. R. Them

"PUNKIN-BALL" Shirley was her name in local hunting circles when I first met her. And, not too long afterwards, she became my favorite mother-in-law. While she was still in her late 30s, she bounced her first grandchild on her knee, and was thenceforth known as "Granny." She accepted the title with great patience, and proceeded to grow older graciously. She was a housewife, store-keeper, and mother, but most of all she was a hunter. Still is, matter of fact, and going strong.

She lives in northeastern Pennsylvania, up where the Endless Mountains create a "Little Switzerland" and dairy farming is widespread. Ideal habitat for wildlife exists in abundance, and the nimrod can count on seeing just about every species of Pennsylvania game in his travels. People come from the cities early each October to see the area's flaming foliage, but to Granny, those colorful leaves only mean one thing . . . hunting season is coming!

I first saw her in action in deer season, way up on a far mountaintop, her 16-ga. double-barrel balanced on a rock. She was laying down a barrage of punkin-balls—enough to make General Pershing blush with envy—at a big whitetail buck making tracks for other parts. As the antlers faded from view, she eyed the double with venom, insisting the darn thing was cross-eyed or something. "Can't hit a barn with this shotgun," she said. "Time I got a rifle, for certain." She did get a rifle, too. Kept the cock-eyed shotgun for small game.

The replacement was a top-ejecting, open-sight lever-action. A few seasons with this gun didn't put any steaks in the freezer for winter, so she swapped it off for a 300 Savage, Model 99, with a scope. Her score improved. She began to connect with regularity. Granny now took second place to no one in deer season. She did her share of driving as well as standing and soon achieved the



THOUGH GRANNY didn't find her double-barrel 16-gauge the answer for whitetails, it serves well for small game in the Endless Mountains of northeastern Pennsylvania.

reputation of being a good rifle shot.

Small game was a different matter. That old double still gave her fits. She'd blaze away at every rabbit, bird, or squirrel within range, but, as I recall, never came home with a full game pocket. Didn't matter, though. She still viewed each new hunting season with anticipation, and always was the first to have her new hunting license in hand. Out would come her disreputable old hunting clothes, the housework would wait, and Granny was rarin' to go. A pocketful of shells and her enthusiasm started each day of hunting. And make no mistake, Granny would hunt with the best of 'em all day. She was no fair weather hunter, even though her success ratio was low.

Countless times Granny pulled up and showered down on the local



ONCE SHE GOT her M99 Savage and a scope, Granny's deer shooting results improved considerably, as shown by this nice Bradford County whitetail doe.

wildlife. Small game was fine, but best of all she liked deer hunting. As her years with the old Savage increased, and as she accumulated more grandchildren, things began to look up. Now that she had a younger generation to hunt with, her experience and patience were looked upon as having great value.

With each passing season, Granny got better at the business of hunting. Our hunting group had forsaken the more distant mountains for deer, and now hunted the local woods. And, naturally, Granny's home was the center of activities. Great gangs of hunters and a garage full of critters to be skinned out didn't faze her. She wasn't worried about all the mud tracked into the kitchen, or that the gang had to wait for supper. Her hunting came first, and everyone knew it. Few were the years her deer tag was not filled out. She hunted with the gang when possible, and by herself if no one was around to go along.

One year she was scheduled to fly to South Africa. As fate would have it, the same day was the beginning of the antlerless deer season. Granny volunteered to go on the first drive, saying

that she had 'til noon to hunt . . . but by darn wasn't going to leave until she'd tagged a deer. Her confidence was rewarded, for, as she walked along the foot of a hillside drive, three deer tried to get past her. Only two made it! Later, as we looked at her "trophy," she came in for some natural kidding about its small size. "Well, I aimed at the biggest one of the bunch, and this is what I got," she countered. "And, now I'm leaving for my vacation." She did, too. Those of us staying behind processed the meat for her freezer.

Trusty Savage

During summer, the trusty Savage goes along when Granny goes anywhere. The local woodchuck population suffers then—mostly from the noise of her shooting. Occasionally she does connect, and is happy and bright-eyed as she tells about it. In small game season, it is "Ol' Cross-Eyes" which accompanies her. Now it is time for the small critters to beware. Just recently, Granny came home with a ringneck. "First one in years," she said. "I snuck up on him in a bramble patch!" Happy as could be, she proceeded to clean the bird and chuck him in the freezer with all the garden goodies she'd put up this year.

Granny even gave in to the lure of the Far West, and has gone on two elk hunting trips. Didn't get an elk either time, but she spent a lot of time "admiring the scenery" on her uphill hunting. She took to life in a tent like a veteran. No complaints at all, except for some muttering about how the men snored! Point is, she was accepted by the others as a hunter and fellow "tent-rat."

Granny chased some chukars up and down the western hills, and kept up with the male group at every turn. She did her share of camp duties, seemed grateful that she was not expected to cook for the men, 'specially on the little sheepherder stove. She liked that stove for heat, though, and kept a good supply of tinder on hand for early morning and supper fires. A warm tent suited her just fine.

Another time, back in Pennsylvania, Granny and two others did not get out

of the woods by dark. About 2 o'clock in the morning the rescue party came upon the threesome sitting around a campfire, happily devouring fresh roast venison. Unconcerned as ever, Granny invited the would-be rescuers to come on in and have breakfast. But that was the last time she hunted the far mountains for deer. Once was enough of that sort of thing!

Well, the years have gone by, and her grandchildren now number over a dozen. Lately, a great-grandson arrived. But Granny is still a hunter. A few years back some of us decided it was time her old brush-whipped hunting outfit was laid to rest, and Santa gave her a new lightweight, one-piece hunting suit. The first time out with this new gear was a revelation to the old girl! There was a new spring in her step, too. "Keeps me warm and doesn't slow me down like the heavy old suit did," she said. "Even makes the hills easier to climb!" So the new outfit joined the old Savage as part of her standard equipment.

Granny admits to going fishing during the summer, garden work and weather permitting, providing it does not interfere with woodchuck hunting. Her summer home is always filled with visiting children and other family members. But you'd better be ready to do for yourself, for Granny only comes in to do the cooking when the fish aren't biting or the chucks aren't out. The great outdoors comes first.

Recently I took a hard look at "Old Cross-Eyes," and concluded that her hitting problem was due to the stock. Granny had been shooting all those years with just too much wood on the

back end of her old thunderstick. This was soon attended to, and the modified stock seemed to fit her better. "But now I can't hit anything with it," she complained. So I explained to her about things like sighting-plane and built-in lead on an upland double. After digesting these profound subjects, she asked wonderingly, "You mean I have to aim where they aren't to hit 'em?" So now she is doing her level best to educate that bob-tailed old double to its new way of life. She'll do it, too.

Into the Pot

What Granny shoots goes into the pot. If you don't like game, stay away during hunting season and for a few months after. You'll get what game she has on hand to eat, and when she brings home the venison, it's always heart and liver first. If someone in the family has given her a goose, duck, or grouse recently, you're sure to see the latest acquisition on the menu eventually.

With four children of her own, their families, and the coming generations, Granny is assured of constant hunting companions. Now, as she approaches retirement age, I'm sure she can look back and be content. I'm certain, too, that she looks forward to the next hunting season with as much anticipation as the youngest of the family hunters. Guns and hunting are a part of her life. This Granny can refinish old antiques, cane chairs, hook rugs, tie off a quilt, and compete on even terms with the gray-haired set in the social graces. But to me and many others, she is a time-tried hunting buddy. And that makes Shirley Jackson—Granny—the greatest!

Talk About BIG! . . .

The tongue of the blue whale weighs 8900 pounds and its heart tips the scales at around 1000 pounds, the National Wildlife Federation says.

Tall Tails

Biologists have discovered that the social status of a wolf can be determined by the way it carries its tail. The pack leader carries his tail high in the air, while a subordinate wolf will carry its tail low or even between its legs.



T. Oughton

SHOTS TAKEN...

SHOTS REMEMBERED

By Chuck Fergus

IT WAS NOT the kind of day a grouse hunter exults in—not a kodachrome day with cobalt blue sky, flaming foliage and filtered forest sunlight. Rather, it was the kind of day Centre County seems famous for in late November, with a milky sky and a cold south breeze that rattled the leaves.

I had spent two hours kicking along the oak ridges without seeing a single bird or even hearing a muted wing-stutter as one flushed ahead, out of sight. But as I moved out of the timber and started across an old orchard, I remember thinking this place looked good. Scattered bramble patches and an occasional barberry grew under the gnarled apple trees, and 300 yards across a weed field stood a log house. The old farm was unkempt and brushy, and the Barrens would, in the end, reclaim it and the small orchard.

Actually, I was more on the lookout for a rabbit or a pheasant as I kicked through the patch. I thought the grouse—if there were any in the area—would more likely be in a stand of pines ahead. I crossed the orchard twice, from a different angle each time, but when I came to the pines after the second passage, it looked as if I'd drawn a blank. No birds, no rabbits, nothing.

I had stopped and was facing the pines when I heard the grouse take off. It came from behind me, from the orchard, but heading toward me and the safety of the pines.

I pivoted to my right, raising the Ithaca 20-ga. double; although awkward, the movement was totally instinctive, the stock hitting my shoulder, the arc of the muzzle and the speeding bird converging from opposite directions, the last-second trig-

ger slap as the grouse vanished behind a tongue of pines that grew out into the orchard.

I stopped my unorthodox swing and listened. I thought I heard something fall, but I knew it might be breeze through the old trees or even the sound of my own pumped-up bloodstream.

As I rounded the tongue of pines, I knew my ears hadn't let me down: a single feather floated over the weeds. After a few minutes of searching, I found the bird. It was a cock grouse, with a large iridescent ruff and an unbroken black band across the fanned chestnut-brown tail feathers.

Another Hunter

As I straightened, the grouse limp and loose-necked in my hand, I saw another hunter coming across the orchard. He wore a faded canvas hunting coat and an orange hat. Moving slowly to negotiate the brambles, he carried a battered double-barrel at port arms.

As he came up, a smile flashed across his lined face. "I see you got one."

"Yeah. It was kind of a lucky shot."

"They're all lucky if you make 'em. Mind if I take a look at that bird?"

I handed the grouse over and the old man hefted it.

"I useta get my fair share of birds," he said, looking up and squinting at the white clouds that covered the sky. He passed the bird back. "I'm not so quick with a gun anymore."

"I don't get many myself," I said. "They're too fast."

"They're fast, an' they're the best. The grouse, he's king in the woods." The old man accented his words and bobbed his head.

While we jawed, I dug out my pock-

etknife and field-dressed the bird. Its crop was full of buds and green leaves.

"He's been stuffin' himself in one of those apple trees," the old man said. "Heck, there's been grouse livin' in this orchard for years an' years."

"It looks like a good little cover."

The old man nodded. "I was born in that house over there. And I planted those pines your bird was heading for, and my father planted these apple trees. That's been a few years ago."

As we stood in the orchard, among the trees that now seemed as aged and fading as the man who owned them, a lot of half-conceived thoughts jelled in my mind. I felt pride over a good shot, sadness at the bird's death, a oneness with the land, a sense of tradition and passage of hunting rights and changes in attitudes over the generations. When we parted, I took along a good afterglow and knew I'd long remember the shot taken.

I threaded my way back across the orchard, past a broken-down apple tree which was sending out a frenzy of sprouts. Just as I stepped over a log, a grouse rocketed out of the brambles at the tree's base. It angled toward the pines, but I was facing in that direction and after I got my feet straightened out I had a perfect straightaway shot.

A Split Second Too Long

I waited, probably a split second too long, to let the bird get out to good range. When the Ithaca's right barrel sounded, the bird kept going, too fast and too far out to allow a second shot. It locked its wings, veered and then cut between the dark trunks of the planted pines.

I stood for a moment, a bit annoyed at missing an easy shot after making a tough one; then I broke the Ithaca, and the shell popped out smoking. Just as I reached into my vest for another shell, a second grouse came out of the same thicket. I fumbled like a kid, dropping the second shell and finally closing the gun and raising it toward a target that was fast disappearing. Too far. As I watched, the grouse banked for the safety of the trees, following exactly the first bird's flight pattern.

I turned and looked off toward the

old man, who had paused about a hundred yards away in the direction of the house. He had turned too, and was standing with the old double crooked on his arm. He waved his orange hat, and I tipped mine in return, feeling good somehow as I set it back down on my head. Another shot taken; and even though it missed, another shot remembered.

Then there was that day early in rabbit season. I had time for only a couple hours of hunting, so I put my two beagles on leashes and walked down the road to a little cover about a half-mile from the house. We'd gotten a good early start. The sun was barely up, but you could pretty much predict it would stay a still, cloudless day—the type a friend of mine calls a "black shadow day," because the sky is so clear and the sun so piercing that all shadows are distinct and black and knife-edged.

As soon as we crossed a dirt road and stepped into the thicket of dew-berry, blackberry and honeysuckle, the hounds struck a hot line. The ground was frosted, just thawing, and apparently the scent held well, for the beagles pushed the rabbit in a long elliptical pattern. I waited with my back against a thorn-apple bush to break up my outline.

The rabbit must have sensed something out of whack, because it didn't complete its circle but broke uphill instead. I didn't see it, but from the baying of my hounds I could tell it had gone through a sumac patch, under an old apple tree and then into a field of picked corn. Listening closely, I knew Goldie was leading and Ghost, the younger dog, was a bit behind on the line.

There were few checks; the rabbit was running well and the hounds were having little difficulty unraveling changes in direction. They went around again in another big ellipse, and for the second time the rabbit broke uphill into the field.

I left my stand and moved into the corn stubble myself. Out in the knee-high angular stalks, the hounds were baying. Goldie called in a clear chop voice, and Ghost sounded a slightly higher, shriller tongue. Then the

cadence changed—the rabbit had slowed, maybe stopped, and the hounds apparently had gotten a glimpse. They broke into a high, excited cry as they sight-chased for a moment, then fell silent when they lost sight and had to cast around to pick up the scent trail again.

But when the dogs closed in, they had pushed the rabbit out of its pattern. Instead of moving once more into the thick cover, the rabbit backtracked and headed in my direction. Maybe it was laying tracks for a favorite woodchuck hole.

Standing in the corn stubble, I heard baying and the rasp of leaf against stalk as the chase came closer. And then I sensed as much as saw the rabbit, a brown flash that darted by a scant yard away—maybe even between my legs, it happened so fast.

I turned carefully to keep my footing, the shotgun coming up as I squinted into the low bright sun, desperately looking for the rabbit. When I saw a flick of white from its tail, I shot. A minute later, the hounds worked past my legs with scarcely an upward glance. Tails wagging, they reached the spot where I'd last seen the cottontail; their tonguing stopped, and I walked over to retrieve my shot.

Again, it would be a shot I'd long remember. It wasn't spectacular, wasn't a great shot, didn't even add up to a full game bag because I didn't pull the trigger again all morning. But once more a combination of factors—a perfect day, beagle music, the satisfaction of hunting with my own hounds—etched the shot into my memory.

For many of us, hunting boils down to memories of a series of such shots. Shots taken on beautiful days, rainy mornings, warm afternoons, snow-whipped dusks; shots taken in front of dogs, with favorite hunting companions—perhaps most memorable while alone; shots made, shots missed, the stuff of hunting.

It's true, I can recall little of many of the days spent afield. But in my mind's eye, I can still see my first ringneck fall. I remember the exact circumstances surrounding the first rabbit taken in front of a year-old pup named Goldie. I



HE HAD TURNED TOO, and was standing with the old double crooked on his arm. He waved his orange hat . . .

remember a day alone in a squirrel woods, red and yellow leaves falling like huge snowflakes, when it seemed I couldn't miss with a 22. And I remember missing a relatively easy shot on the biggest turkey gobbler I've ever seen.

One evening, I sat up late with a friend. We were talking about happiness. We both decided that we'd been truly happy on relatively few occasions—only for a few weeks at a time, perhaps less, and on scattered days throughout our lives. We weren't complaining; we were only examining the way we felt and admitting that simple happiness is elusive and perhaps not the ultimate goal.

But we also agreed that we were happy when we were hunting; life then was good and simple and uncluttered. More often than not, this happiness came when all the experiences, sights, sounds and attitudes which make up hunting were boiled down to the essence of a single shot.

I remember some of the shots I've taken, the shots made or missed, and the days and hunts on which they took place. They were good days, good hunts, good shots.



AN "ANTLERS ONLY" MOUNT makes a decorative table piece, one that always brings back memories for outdoorsmen discussing their sport.

Use ALL Your Deer

By Ed Pearce

Illustrations by Larry Sutton

Care of the Trophies

ONE OF THE greatest pleasures derived from hunting is the viewing of trophies. I never pass by my own prized set of antlers without recalling the two-day pre-scouting of the area and the long, successful shot that brought the big buck down. Nor do I view the set of six-inch-long tusks from an immense 420-pound wild boar bagged in West Germany without recalling the long chase and the five shots needed to finish him off. He even treed me at one time in the chase, and that still causes me chills.

While the deer's meat is the most universally used portion of the animal, there's much more that can be advantageously utilized. Just as the meat must be properly cared for in the field, those other desirable portions of

the deer must also be field-processed properly.

Many hunters don't have their trophies because they didn't know how to properly prepare them in the field. If you're going to have a deer head mounted, try to avoid head shots which can spoil antlers or the skin surfaces of a good trophy.

What Kind of Trophies?

Your first decision must be made when you've had a good, close-up look at the downed animal. Is the rack worth preserving? Is it better than the ones you now have? Are the beams well-pearled and heavy? Are the single points unbroken and is the overall symmetry good? Long after the meat has been eaten and enjoyed, you'll still have these trophies as re-

minders of your prowess, so take plenty of time to make the decision to keep them. Cost must also be considered.

The mounting of trophies to make the animal appear lifelike is called taxidermy, and also includes the making of rugs, robes and other useful items. It's definitely not a field for an amateur; a taxidermist must study and gain much experience before he can do an acceptable job.

If you intend to retain a trophy in any form, as soon as the animal is downed start thinking of how you can keep the entire animal, and especially the skin surfaces, clean and free from cuts and abrasions. Take several good photographs for use by the taxidermist.

Next you must decide whether you want the antlers alone, or a neck or shoulder mount. Use cool water and detergent if necessary to keep the outside skin clean. Make sure the skin back to the shoulders is free of blemishes and acceptably colored.

Antlers Alone

If you decide to keep the antlers alone, it's best to retain part of the skull as a base. To do this, saw through the skull at the top of the eye sockets as shown in Figure 1. After this cut is made, skin out the remaining portion of the skull and remove all bits of skin and flesh.

The taxidermist can turn the antlers into attractive hat racks or mount them on shields. Don't discard those antlers not deemed good enough for mounting, as they have other uses.

Neck or Shoulder Mounts

If you want a neck or shoulder mount, measure the head before skinning as shown in Figure 2. The field preparation to be done is shown in Figures 3 and 4. Make sure that the cape is cut long enough for the type of mount desired. Shoulder mounts show more of the true form



FIG. 1

FIG. 1—Dashed line shows where to saw off skull plate when antlers are to be kept but head will not be mounted.

and character of the animal. Capes for these mounts should be cut behind a deer's front legs in a straight line around the animal. This ensures enough skin for a full shoulder mount. It's not always necessary to clean the skull, as artificial forms are used.

Once the cape has been removed, scrape out the flesh and fat, rub in salt and roll it up for a few hours; then turn cape flesh side out, resalt, stretch and semi-dry in shade; then roll up for shipping or transporting. Smooth out folds, as they will cause the hair to slip.

Fine dairy or table salt is best. If you retain the cape for a while before shipping, keep it dry and cool. Four pounds of salt is required for the average deer cape.

Head Skinning

You might prefer to turn the job of head skinning over to the taxidermist, but make prior arrangements with him. It's not an easy job, but if you're careful, you can do it as follows: make the opening incision on the back of the neck (never on the throat). The first cut is V-shaped from the base of each antler to a central point in the middle of the back of the neck, thence down to a point in the middle of the back of the neck, thence down to a point on the back which is the top of the shoulder, thence down each side to the front

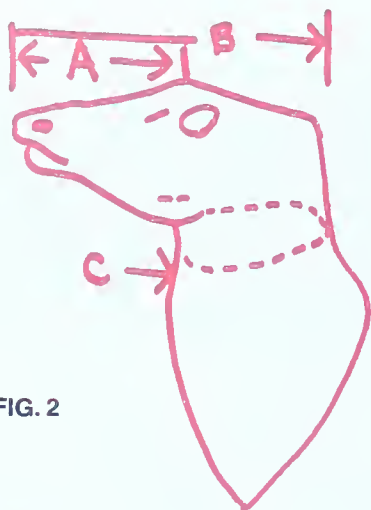


FIG. 2



FIG. 3

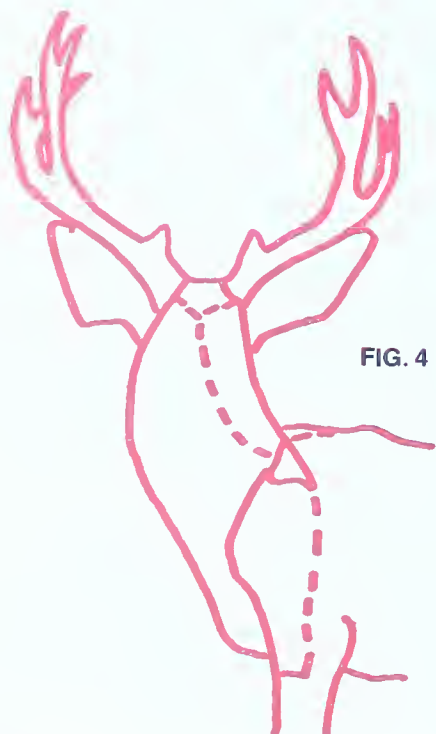


FIG. 4

of each leg. Leave the neck skin long, with a part of the brisket attached.

Remove the scalp from the head, working it first from around the base of each antler with a blunt tool such as a screwdriver. This is better than a knife, which can easily slip through the skin. Cut the ears close to the skull. Don't cut holes in the skin around the eyes; by pulling on the skin and cutting next to the bone, no holes will be cut. Cut the lips right off at the teeth. The nose can be cut $\frac{1}{2}$ " to $\frac{3}{4}$ " back from and through the cartilage. Preserve the eyelids but not the eyes (artificial are used).

After the scalp is removed, cut or scrape away all pieces of meat and fat. Turn and skin each ear inside, somewhat as a glove is removed from the hand.

After the head is skinned, ears turned and lips and nostrils severed, rub salt over all parts of the flesh side of the scalp and roll it up, flesh side in. After 24 hours, unroll it and shake off the excess salt; resalt it and roll it up. It should then be frozen until shipped or taken to the taxidermist.

As quickly as possible after the

FIG. 2—If head is to be mounted, before skinning take accurate measurements (a) from nose to inside corner of eye; (b) from nose to back of skull, and (c) around neck behind ears.

FIG. 3—To be certain of enough skin on cape for head mount, cut around body six inches behind point of brisket on deer (dashed line), farther back on elk.

FIG. 4—Dashes show cuts to make when caping out a trophy antlered animal in the field, in preparation for mounting by a taxidermist.

deer is field dressed, cut the cape, salt the cape or head skin and get it to the taxidermist. Head scalps and capes must be tanned before a successful job can be accomplished. Don't delay the skinning, or the scalp might spoil before it can be tanned.

If you feel the least bit inadequate in caping a trophy deer, or have made prior arrangements with the taxidermist, cut the skin behind the front shoulders, roll it forward to behind the ears and cut off the head. Get it immediately to the taxidermist, who will finish skinning it out.

Deerskin Leather

Presently, the most popular method of tanning leather results in a chrome tan, in the natural cream color. However, according to the articles you want made from leather, it can readily be dyed in many colors; biege, saddle, rust, gray, green or chocolate brown. Usually the entire skin is dyed in one color so matching articles can be obtained.

Many hunters prefer to ship the skin to a tanner who also makes the tanned leather into the articles desired. Among the items often made are jackets, coats, caps, capes, vests, gloves, handbags, moccasins, billfolds, key cases, pillows and shoes.

The Feet

Don't forget the deer's feet, as they make beautiful and useful gun racks and footstools. For gun racks, use a very sharp knife and cut the skin about six inches above the ankle and saw the bone through. For legs of footstools, raise this cut to just below the knee joint. The taxidermist will set the feet in a preservative solution and let them dry until they are rigid. He'll then prepare a top for the footstool from a plywood base and a covered foam rubber cushion, and then attach the legs and feet with a threaded rod or fitted peg. The gun racks hold one or two guns, using either two or four feet.

The Antlers

Deformed or otherwise objectionable antlers, not to be used as mounts, have other uses.

By cutting the tips of the antlers crosswise with a hacksaw, polishing with sandpaper and steel wool, you can make many sizes of buttons. Drill holes in them and cover them with buckskin. Such covered buttons are eye-catching when used on a deerskin jacket, shirt or coat.

From the larger sections of antlers can be made handles for pocket, kitchen and hunting knives; from the base such things as money clips and belt buckles.

The Teeth

Unfortunately, the whitetailed deer's teeth don't provide desirable ring settings. In the American elk and the European red deer stag, the eye teeth (called 'grandeln' or 'whistlers') make unusual and very attractive ring and stickpin settings.

When you've bagged your deer, do your part properly in the field and you'll have delicious meat and beautiful trophies. When you consider that venison is a treat enjoyed by comparatively few people, that a deer trophy is an outstanding addition to your den, and that the skin and other parts of the deer provide beautiful and useful articles, it makes sense that you use *all* of your deer.

But don't stop there. Now that you have attractive trophies, keep them that way. The worst enemy of a deer trophy is dust. Use a small, portable vacuum cleaner to keep your trophies clean. Occasionally spray the skin lightly with borax or some mothproofing agent and comb out the hair. Wash antlers with warm water and soap. Allow them to dry and apply a very light coat of linseed oil. That way, they'll stay attractive and afford you continued pleasure for many years.



FOUR SQUIRRELS are legal game for Pennsylvania hunters—the red, fox, gray and “black”—a color phase of the gray.

Grand Slam on Squirrels

By Linda L. Steiner

Photos by Robert L. Steiner

MY HUSBAND, BOB, and I have long regarded squirrels as the smallest of the “big game.” Shots taken at running squirrels with the scattergun certainly put them in the small game category, but anyone who has hunted bushytails with a rifle knows the sport can most nearly be compared to big game hunting.

To many of us, “hunting” implies deer hunting, and we appreciate a chance to practice whitetail techniques on other types of game. Squirrels and turkeys offer the best experience. Both are hunted in whitetail territory, take a lot of patient posting and a knowledge of the particular animal’s sign and choice of habitat. Add a scoped rifle, a cold day requiring “deer-hunting” clothing, and we might as well be sitting for a buck. Except that we scan the tree tops more than the ground.

National outdoor magazines have long had their share of stories about

“grand slams” on big game animals. The writers usually traversed continents in search of a complete set of different species of sheep, deer, cats, etc. Of course, this type of hunting is not as prevalent or widely accepted today. Nowadays there are too many people who can afford these “round-the-world” hunts and too great a stress is put on game animals whose numbers may not be able to withstand the excess pressure.

Pennsylvania is blessed with a variety of game animals, but most families are represented by a single species. Whitetails are the only deer (today’s elk being neither native nor huntable), bear are limited to the black, wild turkey to the Eastern, grouse to the ruffed, etc. Squirrels seem to be about the only game animal of which the hunter can bag a variety and not have to be concerned about endangering the numbers of any species. A “triple

trophy" or "grand slam" on bushytails makes an interesting challenge for the hunter and is a pleasant accomplishment to remember.

The Northwest is an ideal setting for bagging all of Pennsylvania's squirrels. Here are the high plateaus of the Alleghenies and the rolling and glacier-smoothed farmlands of the extreme western portion of the state. There are fox squirrels at the edges of the fields and "blacks" (a color phase of the grays) in the hemlocks of the mountains, with grays and reds at home in either. (We don't consider chipmunks or flying squirrels as game animals, and neither does the Game Law.)

Northern Venango County, in particular, is a pleasant combination of both types of terrain and a home for all types of squirrels. It is possible to find all four kinds in the space of a few miles, given the right terrain. However, I shot my foursome last year in three different counties: Forest, Warren and Venango. Hunting in this beautiful area with a scoped rifle was as exciting and interesting an experience as if I had traveled the world for a grand slam of exotics.

The large and elegant fox squirrel was the species I collected first in the early small game season. We'd hunted Pennsylvania's "king squirrel" in the flat farmland of Erie County, using shotguns for safety reasons. Here in Venango County we felt safe firing our 22 magnum rimfires with the hillside backdrops.

All the fox squirrels we saw seemed to be true to their title of "farm-country" squirrels. They were never too far from a cornfield. We've seen them drag the cobs hundreds of yards down the hillsides to sit and eat in safety. We've often read that fox squirrels don't climb trees as well as grays, but they've always seemed perfectly adept to us. They traversed tree limbs and ground equally often as they moved toward food plots.

My first quarter of the grand slam was downed as it paused from climbing through the tree tops. The shot went slightly awry, hitting the squirrel in the neck, but making an instant kill. I was particularly proud, though; this was my first fox squirrel with a rifle.

Later in the year I bagged my share of gray squirrels from Venango County woodlots, but the first was in Forest County. Nuts seemed very scarce last year in the nearby big-woods counties, and squirrels with them. But one area we hunted, although its acorn crop was poor, had had a banner year for hickories. Here were numerous squirrels, while elsewhere they seemed absent.

In this hemlock and deciduous area, both blacks and grays abounded. The first day we hunted the area was a day unusual for the season. The temperature must have been over 80 degrees and it took an extra swabbing of insect repellent to keep the "no-see-ums" away. The noises of squirrels in the bone-dry leaves sounded sharply.

Half a Slam

Sneaking closer was out of the question, and after I had missed several shots at squirrels on the bench below me, a gray returning to a den tree on my level made the mistake of presenting a good head shot. Half of the grand slam was now mine, but the most difficult, the black squirrel, still lay ahead of me.

The black squirrel frustrated me more than once this year. I'd had more misses and blown more chances for shots at them than at any other squirrel. Most of the blacks I saw seemed especially nervous, never pausing when they were on the ground and disappearing quickly into the protective boughs of hemlocks. I'm convinced that black squirrels somehow know their ebony coats best camouflage them in shadowy hemlocks where they're fairly safe from the gunner's bullets.

After my many frustrating attempts in Forest County, I finally met with success in Warren County. Mast was almost absent in our favorite hunting spot last year, but I took up a stand in an area where we had seen blacks previously, hoping some were still around. An afternoon of posting in the large "squirrel-tree" timber without results led me back towards our tent, but not before I passed through a bottomland of saplings and spindly hickories.

Suddenly a black squirrel was running rabbit-like before me, and I



LINDA STEINER displays her collection of squirrel tails, one from each of the types mentioned.

cursed my rifle for not being a shotgun. If it had continued running until it reached the safety of the streamside hemlocks, there probably would be no story to write. But the black squirrel ran up a hickory in front of me and was making its way out the limb towards a large hemlock when my 22 bullet caught him. I was amazed to have killed my "big woods" squirrel in a brushy thicket.

Although the little red squirrel is not normally considered a game animal, mainly due to its size, in action it is often the gamest of all the squirrels. By nature alert and nervous, reds never seem to present a standing shot. Deep woods pineys are as wild as any other squirrel, disappearing immediately if the hunter clumsily cracks a twig.

The red squirrel seems to be a bit of a woodland bully, too, despite its size. We've seen reds chasing gray squirrels out of an area, chattering belligerently.

My red squirrel was one of these forest wraiths. Many times I'd followed the pineys in my scope trying to get a shot through hemlock branches and hesitating until they disappeared from view. One finally paused long enough and the collection was complete. My husband, Bob, was also hunting for a grand slam this year, but the fox squirrel eluded him.

I'm not enough of a trophy hunter to want to do this every year, but it was an interesting challenge. All four types of squirrels graced our table, from the rabbit-size fox to the bite-size red. Reds are small, but their meat is as sweet as the rest. All four squirrel tails in a glass frame will decorate my den wall, a trophy fit to take its place beside our mounts of Pennsylvania whitetails and wild turkeys.



TOMMY EDGINGTON, RD 1, Worthington, has been a busy young trapper. A recent bag included 67 muskrats, four raccoons, and one red fox.

WOODLAND THOUGHTS

BY LOU HOFFMAN

Wildlife Education Specialist



Man has long searched for—and found—strength in the shadows of the mountains. And when those shadows fall on a rustic one-room log cabin, man can find even more strength on his trips to the mountains.

One year ago a nighttime experience was detailed in “Woodland Thoughts.” It could have been any night at any place, but it wasn’t. That night unfolded in a remote place that holds special meaning for some of us . . . a meaning that’s difficult to describe.

The remoteness had a lot to do with our feelings, and so did the quaint cabin that fitted the clearing as well as the maple and cherry fit the surrounding slopes. Smells of sweet fern, humus and birch punctured and refreshed dusty nostrils, and senses, dulled by daily routine, came alive at this place. Senses we had almost forgotten.

Nearby a stream scoured the rocky channel, further aging the valley. She was persistent at her work and her dreams of bigness were realized downstream when she became part of the grand old lady, the Susquehanna. Yet her destructive weathering was offset by her sounds—sounds that refreshed tired human ears. She surrounded and nurtured the native brookies in her breast, while the narrow meadow, lush with sorrel and bluegrass, enclosed her banks and the mountain slopes blanketed the valley with shadows. It was a strong place for a human spirit.

Today the place is different. The cabin was burned . . . deliberately . . . and the valley is scarred. But the memories can’t be changed and they are safe, in a selfish sort of way. That’s why, now, we want to share the past with you. There is something here for everyone.

Dob Studholme knew the builder of the cabin. Separately they came to the valley before the road was on the ridge. They met there and shared, for years, what the valley gave to few. Because they saw value in rugged back country, they take with them into troubled times a sense of solitude that is now gone.

I’ve asked Dob to recount those years for us, and he does it well. His story begins on the following page . . .

They March To A Different Drummer

By Dob Studholme



THE QUIANT cabin fitted the clearing as well as the maple and cherry fit the surrounding slopes. Smells of sweet fern, humus and birch refreshed dusty nostrils. It was a strong place for a human spirit.

THERE WAS a small log cabin along a clear, spring-fed stream in the mountains of Pennsylvania. The building occupied a clearing in a steep-sided, forested valley little frequented by humans when the cabin was built. It was a remote site, difficult to reach, but once attained, the building was a snug retreat furnished with the essentials for life in the woods.

The cabin stood for over forty years, its fireplace warming and comforting the tired, the cold, and the wet with the incomparable penetrating warmth of an open wood fire. The cabin watched the growth of a family as the

parents taught the youngsters proper respect for all things in nature. The children grew to appreciate the rattlesnake and the swallowtail butterfly, the brilliantly colored brook trout in the clear waters of the stream, the playful raccoon, the shy mink, the noisy ravens, the whitetail deer, the lumbering but somehow graceful black bear, and the many other lesser wild things in the valley.

The cabin, from time to time, sheltered expert fly fishermen, the envy of the camp owner who was more ardent than adept at trout fishing, and who freely admitted it. It afforded rest for tired hunters, the owner among them, who were almost as interested in observing deer as in shooting them, and who participated in the hunts largely from the conviction that excess unharvested deer were doomed to a slow agonizing death from natural causes.

When the cabin was built the valley supported a growing stand of mixed hardwoods, the virgin timber having been harvested early in the 20th century. The stream was lined with willows and aspen, making trout fishing difficult. Beavers occupied several dams which also served as homes for wood ducks. Grouse were relatively plentiful. Today the timber is again approaching marketable size. The understory of the forest is open and the stream is relatively easy to fish, the willows and aspen trees having largely disappeared.

Trout in the stream were plentiful then. There were few signs of human disturbance. There were no boot tracks on the sand bars along the stream. There were no empty beer cans, food tins, plastic wrappers or foil scattered along the old railroad grades or logging roads. There was no noise except the sounds which properly belonged to the environment. No motor bikes, portable radios, chain saws or four-wheel-drive

vehicles were heard. Airplane overflights did not occur. The place was one of tranquility and solitude. The songs of myriads of birds filled the spring air. As the seasons advanced, other sounds were heard in their times. The croaking of a family of ravens livened the valley in early morning. The hoots of the big owls, the occasional quavering calls of the little screech owls, the incessant calls of the whippoorwills, the sharp bark of the fox, the soft conversational tones of a flock of wild turkeys were other pure sounds which mingled pleasantly with the tinkling of the waters of the lively stream as it hurried down the valley among mossy rocks, through sunshine and shade. Only on rare occasions was the sinister and urgent buzz of the rattlesnake heard; but there were snakes in the valley to keep the visitor alert to his surroundings.

It was possible, of a summer evening, to watch the dainty whitetail fawn across the meadow; and sometimes the observer was rewarded by the sight of a mink as it moved along the stream bank, or the lumbering black bear as it came down from the ridge to bathe and drink from the waters of the stream.

Very few people visited the valley then; there was little reason to do so. People were interested in trying to earn a living, and few could see any way to do it in the valley where material things were in short supply. There were some, however, who saw and lived the tranquility of the valley. One of these was a man of vision and sensitivity. He and his wife hiked into the most remote places they could find, carrying their provisions and shelter on their backs. In the early 1930s they visited the valley and it became their favorite of all places. They camped in the little meadow and watched the fireflies sparkle in the dusk and heard the night sounds of insects and other denizens of the area. The time came when they had to leave and they wondered when they might return, and if they would have to camp in the rain again on their next trip.

At home, three hundred miles from the valley, the man was helping thin a stand of white pine trees which he and his father had planted thirty-three

years previously. His thoughts returned again and again to the meadow in his favorite, distant valley. As the pile of logs grew, so did an idea in his fertile mind. He thought, wouldn't it be nice if we had a log cabin in the meadow where we could find shelter from the weather?

He talked the idea over with his wife. At first it seemed highly impractical. The pile of white pine logs was a long, long way from their favorite campsite, and the problem of moving them seemed hopeless. However, he wasn't easily discouraged and on further investigation learned that he could ship his logs about as cheaply as he might have cut logs at the site. People at that time were eager to work at anything for which they would be paid; it was during the years of the Great Depression. He arranged to have the logs moved by rail and by horse and wagon to the meadow in the mountain valley. He found a local man who knew how to build log cabins and who was willing to stay at the remote site and do the job. The building was completed in 1934, and was used by the man and his family until age and infirmity interfered with their ability to enjoy the area.

Camp Log

A camp log was maintained through the years and events of each visit were entered. Notes in this diary in the unsteady hands of the very young indicated that the man and his wife shared their cabin and their love of the outdoors with their children. Stories of encounters with rattlesnakes, of the first spring flowers, of early bird migrations, trout fishing experiences, and of the beauty of the area in winter livened the pages of the log, and were testimony to the very real and enduring appreciation of this family for the wilderness. At no place in the log was there any indication that large numbers of people visited the valley. Seldom were others besides the immediate family encountered at any time of the year.

The cabin was well maintained through the years, and at the time of the owner's last visit the building was as snug and tight as it had been when first constructed.

But some things do change; and so it was in the valley. As a result of a new road, the valley became much easier to reach. It became possible to walk to the stream in a brisk half-hour, where, before the new road, a strenuous four-mile walk over a dividing ridge had been required. After World War II, four-wheel-drive vehicles became readily available. These could easily deliver a person to streamside over abandoned logging roads and trails. The valley became much more accessible, and a growing army of outdoor enthusiasts with more time than good manners began to take advantage of the recreational opportunities the area afforded.

Evidence of this increased use became all too evident. Cans, bottles, aluminum foil and plastics were left where they were last used. The noise of vehicle engines as they groaned in and out over the steep valley slopes was heard more and more often. Continued use of these vehicles resulted in deeply rutted, badly eroded and unusable roads. But the invaders were not stopped; they now started using motorcycles to gain the valley. The racket of these devices shattered the quiet charm of the area. People persisted in carrying beer and soft drinks in with

them, consuming the beverages and leaving the containers along the trails, and along the stream. This litter will persist for years, testimony to the untidy habits of this breed of "woodsman."

When the trails became completely impassable, even for trail bikes, vehicular traffic into the area was prohibited. Footpaths were marked for hikers and a walking trail was extended to include the valley. People now began walking in with their dogs and their trash, taking the dogs out with them, but leaving their trash along the trails and at the campsites. Included in their numbers was a type of person who simply did not exist in the valley before. These people continually broke into the cabin, using it for whatever purposes suited their whims, and leaving it in bad condition. One such group, upon being asked to leave, complained that they only wanted to stay a few days. These people had no right whatever to use the cabin. They had entered it illegally. Yet they complained bitterly when asked to leave.

It became impossible to keep the cabin locked; each new lock was promptly broken, or the doors were kicked in and the cabin entered and used. Damage was never repaired by

TODAY THE PLACE IS DIFFERENT. The cabin was burned and the valley is scarred. But the memories can't be changed.



those responsible for it; and the cabin was often left open to the weather and the porcupines.

More and more people came into the valley. They came in swarms, as this was the way they lived. They misused the valley and its treasures simply because it seemed the thing to do at the moment. We seriously doubt that they fully recognized the many, many rewards of the place. They probably were afraid of loneliness and solitude. An owl's call, if one could have been heard above the ear-splitting racket of rock music from the portable radios, would send the listener screaming to the crowd around the campfire.

Recently a friend walked into the valley in late afternoon to spend the night. He hoped that the rest and change would clear the cobwebs of commerce from his mind. It was a cold, gray afternoon and his thoughts were of the promise of a body-comforting fire in the fireplace, and a night for quiet and meditation in the cabin.

As the meadow in which the cabin was located came into view, an ugly sight greeted our friend. There was no cabin to shelter him on this or any future night. The fireplace chimney stood sentinel over the charred and smoking ruins of the cabin. Nobody was about, but most certainly someone had been, and not long before.

Just how the cabin burned is speculation, and perhaps it is best that it remain this way. It may have been inevitable, just a question of time until the pages closed on an era, a place of calm and peaceful quiet. The valley was loved to death by an unthinking crowd of people who misused it and its treasures.

It is discouraging to watch the desecration of the very soul of a peaceful valley, and the burning of a cabin. It is frightening to consider the mores of a people who will repeatedly break and enter another person's camp and ultimately destroy it, as they have destroyed the true values of the valley.

We have not returned to the valley since the cabin burned, and we probably will not as long as it is visited by unthinking hordes bent on changing it to suit their fancies. Aesthetics to

these people is a foreign word, without connotation in their experiences. They seek something in the valley, but they don't know what it is. They will never find it. We have, and we will not forget.

They do march to a different drummer and, to us, the cadence is as scarred as the meadow where the cabin stood. We avoided the particulars for we think it best that way. The builder is gone but his wife, who shared this woodland retreat, left some things that will endure time. She was a writer and published some poetry about her husband and his special place. Here is one of her works. It was probably written while at the cabin.

Mountain Meadows

Mountain meadows is steep and narrow,
Thick with laurel and apple trees,
Berry bushes and rusted harrow,
Sugar maple and honey bees.

Pasture places is poor and scanty,
Rank with rubble and boulder stone—
Timothy by the logging shanty,
Fruit wherever a core were thrown.

Furrows tilts as the hill is tilted.
Mountain meadows is narrow land.
Over the brook the barn is builded,
Only place that a barn could stand.

Dwelling house is as black as pitch is.
Hemlock timbers is always black . . .
Running water and roaring ditches,
Pine and popple and tamarack.

Mountain meadows is steep and stony,
Mountain waters is cold and strong—
Drawing me to the mortal-lonely
Mountain places where I belong.

The memories of the cabin linger. Some are only mental images hidden almost selfishly. Others are open and in plain view. Pictures of then and now, a granite coffee mug huddling the pens and pencils on my desk, even the logo heading "Woodland Thoughts," go back to the valley and memories of time spent there. These are only symbols though, for you can't possess what the valley gave to us. It is as wild as the goshawk, strong as the bear. It is the strength the human spirit finds in the shadows of the mountains. It is real, and it is good.



It's Another World

By Ralph L. Shope, Jr.

THE AIR HAS turned crisp and the leaves have taken on the beautiful array of color that only nature can provide. Fall in Pennsylvania is the favorite time of year for most outdoor people, myself included.

After a warm day of teaching, I head my truck up the long lane toward my favorite spot in the woods. (It is located near adjoining farm and mountain land belonging to my friend.) It's the middle of archery season and visions of that eight point buck come to mind. I know he's out there someplace. I've seen him several times before while scouting the area and enjoying the woods.

I turn off the engine, letting the rush of the hectic world die in the stillness. As I get out of my truck, I glance at my watch. It is 4:15 p.m. and a perfect fall evening is fast approaching. The woods have that special smell and look that only fall can produce. The birds and animals are busy storing a supply of food for winter.

I put on my camo suit, collect my gear, and put a juicy, red apple in my pocket to munch on while I wait for my quarry. The sounds so familiar this time of year are everywhere. Down in the valley I hear a dog barking, a cow bellowing, and an occasional rooster crowing. From the opposite direction, up on the ridge where I am headed, an ol' blue jay and crow are busy telling everything within hearing distance that a stranger's approaching.

The crunch of fallen leaves under my feet alerts the animals and birds in the forest. I see a chipmunk running for cover, a squirrel scurrying up a tree, and the woods around me become silent and still. All I hear now is my own heart beat as I pause to catch my breath and scan the mountain side. I resume climbing. Finally, I reach the tree where the deer trail winds to the fields below. The woods are very quiet and pleasant now, not a stir or noise anywhere except for an occasional fa-

miliar sound from the valley below. The jay and crow have flown to parts unknown, but not before broadcasting their warning. Knowing nothing will appear for at least a half hour, I take the apple from my pocket and munch on it to ease my hunger. Three quarters of an hour passes before the woods come alive after being stilled by my entrance.

A chippy runs on the floor of the forest, squirrels chatter and move about, birds start to sing, and the crickets and katydids chime in with their familiar chorus. Another half hour passes before the tranquility is broken by the sounds of an animal running in the dry leaves. The rustle in the leaves tells me something is moving down the mountain towards me. My heart beats faster with anticipation, my ears strain to get the accurate direction of the sound. My eyes scan the area, but I cannot see the mythical buck approaching. The sound becomes louder. My bow is ready. Any moment now, I think, the big buck will appear from the thickets just ahead.

To my surprise and delight, an old hen turkey with her spring brood appears. They are so busy catching insects and picking up acorns enroute to their roost that they fail to see the strange

object just above them. Minutes pass before they disappear over the ridge. Engrossed in watching the wild turkeys, I fail to realize the sun has set and the light is quickly fading. The woods are quiet again and the rustle of leaves has subsided. There is no sign or sound of deer approaching on the trail I'm watching. Maybe the turkeys spooked them. Maybe they winded me. Down in the valley, my farmer friend is running his corn picker to harvest his fall crop. I notice stillness settling over the woods. A chill comes over me, signaling that darkness is setting in. An owl breaks the stillness with his familiar sounds as night approaches. I realize it's time for me to go.

I lower my bow and prepare to leave, slightly disappointed that I didn't see the big buck—but also relieved that he didn't appear so I can return to this peaceful spot another day. As I walk down the ridge thinking about what I just saw and heard, a pang of hunger breaks up my thoughts and I anticipate arriving home where it's warm and where good food awaits me. As I travel down the lane and swing onto the highway, I look back to the ridge where I just spent two and a half hours and say to myself, "Tomorrow—maybe."

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What a Day For a Wedding!

By Howard J. Mortimer

MOST YOUNG guys hate to attend weddings, and this feeling is compounded when the wedding is their own. As Thornton Wilder said, "If a fellow could get married without all that marching up and down . . ." but it doesn't work that way. I've often carried a 12-ga. shotgun 10 miles behind a good beagle, but that never tired me nearly as much as the thought of that 50-foot walk down the church aisle. When I found that 50-foot walk would take place on the opening day of small game season, I felt doubly doomed.

Sure, I wanted to get married, and there was never any question in my mind that Pat was the right girl, but surely there had to be another day for it. Any day other than the opening of small game season would be better, except possibly the first day of deer season. But there just wasn't any other day unless we were willing to put it off for almost a month, and that would be expecting quite a bit even from a girl as understanding as Pat. It wasn't her fault. It wasn't my fault. Sometimes these things are "made in Heaven" and there is little we can do about them. So the date was set—October 26—the first day of small game season and our wedding day. The time was 1 p.m.

I knew that for all practical purposes I would have no time for hunting on the first day. Then, with the honeymoon, there would be no time for hunting during the entire first week. But if I had been a practical person, I probably would not have been a hunter, so somewhere in the back of my mind I kept going over and over the time schedule for that day.

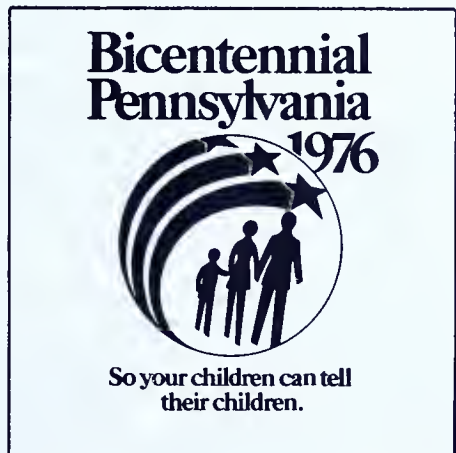
The wedding would be at 1 o'clock. I would need 20 minutes to get to the church and an hour before that to get ready. If I hunted the 60-acre patch of grass and scrub crab apple in back of the house, I would need only 10 minutes to come back in and put the dog away. The season opened at 9 a.m. That meant I had four hours from the

opening minute till I had to be in the church. I had already accounted for about one and one half hours. If I hunted for two hours, that would still leave me a half-hour leeway to clean game, wipe down my shotgun, or whatever. At least that way I would not completely miss the first day. It wouldn't be the same as hunting all day, but then a guy doesn't get married every day so you have to make some concessions.

The Night Before

The night before the wedding I carefully made two piles of clothing. In one I placed a clean shirt, socks, underwear, handkerchief, tie, and freshly polished shoes. Above it I hung my suit with Pat's ring in the pocket. In the other pile I collected socks, underwear, my favorite hunting shirt, brushbuster pants, fluorescent orange vest and hat, dog leash, knife, a dozen 12-ga. field loads, and on top I placed my 12-ga. double. Beside it I set my freshly waterproofed hunting boots. Everything was set.

I was up and ready to go before the alarm rang the next morning. Five minutes before the opening hour, I took Fritz from his kennel and started the short trek into the field in back of the house. At exactly 9 o'clock I released Fritz and dropped two shells





WE WORKED through the briars and the swamp grass. Nothing. I looked at my watch. It was 10:30—time to start back if I was going to be on time.

into my gun. This patch was always good for some shooting. I hoped it wouldn't take me too long to find it today.

I tramped through five acres of grass stubble and had just started into a patch of blackberry briars when Fritz let out a yelp that meant game. He was about 50 yards to my left when he started his steady, melodious bawl. He wasn't far behind the rabbit, and he was running well on the damp ground. I waited as he took the trail along an old fencerow filled with woodchuck holes. Then I heard that low, off-key bawl that meant the rabbit had holed, and I started out to meet Fritz. He always came back for a reassuring pat on the head after a rabbit holed up. That was good because then we could start out together again.

Just about the time I caught sight of him coming through the low grass, he stopped. He was still nearly 100 yards

off, but I could tell he had winded something. He took a couple of steps to his right, then let out a yelp as a ringneck flushed from the thick grass just a few feet from his nose. It flew directly toward me. I waited, gave him a little lead, and pulled the trigger. He folded in the air and fell so close I could have caught him.

It was the kind of shot you always dream of making—a simple, clean shot that makes the shooter look like he knows what he's doing. I let Fritz sniff the bird, then placed it in my game pocket. We worked through the briars to the end of the patch without moving anything else. Then we zigzagged through 150 yards of swamp grass. Still nothing. I looked at my watch. It was 10:30—time to start back toward the house if I was going to be on time.

Two hundred yards from the house, Fritz picked up a trail. It wasn't fresh but he wanted to follow it, and I still had 20 minutes. He worked around to my right, picking up the trail, then losing it, then picking it up again. Then he was silent for a long time, and I was sure he had lost it for good. Just as I was about to call him in, an excited clamor told me he was sight trailing the rabbit. Then he settled down into his slow, steady bawl that I love so much. It was 10:50. This would have to be a short run.

It Was 11 O'Clock

The rabbit ran straight away, till I could no longer hear Fritz's howl. I moved over to an old fencerow, hoping the rabbit would come back down it. I was starting to get a little nervous. I had cut my times close, and I couldn't afford to stay out much longer. It was 11 o'clock now. I should have been snapping the lock on Fritz's kennel. I waited and listened intently. Away off in the distance, I could just hear Fritz, and I knew the rabbit had started his circle. Fritz kept coming closer and closer until I could see him about 75 yards away, working fast. He came straight toward me, then veered off to the side a little and went around behind me. Apparently, the rabbit was running pretty far ahead of Fritz. When I moved, I must have scared him. I

glanced at my watch—11:15. I should have called Fritz off while I had the chance, but I just didn't have the heart. Maybe just a few more minutes.

Fritz kept right on the trail. If he kept running that way, he had to be getting closer to the rabbit. He kept circling to the right, but his circle was much smaller this time. I stayed in the same spot. I wasn't going to chance scaring the rabbit again.

Fifty yards ahead of me I saw a movement in the grass. I waited. Twenty yards away the rabbit broke into a clear spot. I flipped up my gun snapping off the safety. But just as I started to slap the trigger, I realized there was something unusual about the rabbit. A second look confirmed my feeling. This

rabbit was not the normal color. I waited another second, watching. No question about it. He was a wild rabbit, but he was white. I fired, and the rabbit tumbled in the dry leaves along the fencerow. I let Fritz snuffle over him, then I picked him up. He was a pure albino, pink eyes and all—the only one I have ever seen. This had been a different day.

I snapped the leash on Fritz and double timed the final 200 yards to the house. Hurriedly, I cleaned my game, showered, dressed, and was off again. I arrived at the church just five minutes before the ceremony was to begin.

It had been quite a day, a day I would never forget. But what a day for a wedding.

Books in Brief . . .

(Order from publisher, not from Game Commission)

The Complete Book of Practical Handloading, by John Wooters, Winchester Press, 205 E. 42nd St., NYC 10017, 320 pp. \$12.50. American shooters by the millions—literally—handload their own ammo, and numerous books have been written on the subject. However, there's always room for a new one, if it's good, because the subject never stops growing and there are new practitioners coming along daily. This is a good one. Wooters has been working in this field for decades, knows what he's writing about, and tells it in a way that's easily understood.

The following five books, all large format and paperbound, are available from DBI Books, 540 Frontage Road, Northfield, Ill. 60093.

Outdoor Photographer's Digest, ed. by Erwin and Peggy Bauer, 288 pp., \$6.95. Forty-seven feature articles by top outdoor photographers tell how to get the pix you want to solidify your memories of that great hunting, fishing or camping trip. Real meat-and-potatoes stuff, long on useful info, shy on useless frippery.

200 Years of American Firearms, by James E. Serven, 224 pp., \$7.95. One of the world's top firearms historians reviews the evolution of American small arms, from pre-Colonial days to the present. The subject is too vast to be covered in detail in one volume, but Serven provides a good overview and, particularly important, shows how American firearms have reflected the needs, capabilities and spirit of a free people.

Backpacker's Digest, 2nd ed. by C. R. Learn and Mike O'Neal, 288 pp., \$7.95. Notes on tents, packs, boots, sleeping bags, clothing—everything required for portable comfort afield.

Campground Cooking, ed. by Charles and Kathy Farmer, 288 pp., \$6.95. There are a lot of good recipes here, but they appear as a normal part of the 50-plus articles, not as exclusive items as in a cookbook. This book has far wider scope than that, as these few article titles will illustrate: "The Awesome, Clawsome, Delicious Crawdad," "Fish Bones Need Love," "As the Stomach Growls," and "How to Ponass a Pike." Get the idea? Good reading even if you don't cook . . . but you will before you're through with this one.

Camper's Digest, ed. by Erwin and Peggy Bauer, 288 pp., \$5.95. Camping is, perhaps unfortunately, not a simple thing anymore. There are countless kinds of tents, rec-vees, motor homes and campers to live in, four seasons to go in, your choice of states—even countries—to visit, and equipment such as Kephart and Nessmuk never dreamed of to choose from. And books like this to tell you something about all these aspects, help you plan for your next outing, and make enjoyable reading in the meantime.



OCTOBER'S GAME

The sunshine's a little cooler . . . colors from overhead, one leaf at a time . . . smells of wood smoke, mothballs, and dry needles remind us that small game season approaches. Archers have been scouting the woods, gaining information and stoking the coals of excitement still smoldering from last year's hunts. The month is their month—for a while. At mid-month the small game hunters join them for a first taste with grouse and squirrels, snipe and woodcock. Traffic in the woods increases at the end of October when the rest of the small-game hunters appear. Waterfowl hunters have spent October's first weeks repairing waders, sprucing up decoys and perhaps checking on blinds. Dove hunters, too, may be trying to bag a few last mourners, pitting their shooting skills against that fancy little sky-dance at which they are so adept . . . Yes, fall is finally here.







FIELD NOTES



Rara Avis

SCHUYLKILL COUNTY—During my eleven years with the Game Commission, I've met many strange birds of the human variety. But I recently ran across a genuine rare bird on Koenig's flood control dam in West Penn Township. It was a large wading bird with a long, downcurved bill. I got a good look at it through binoculars, but had some difficulty identifying it. Finally, with the help of ornithologist Maurice Broun and his wife Irma, we identified the bird as an immature white ibis. Mr. Broun, who was curator of Hawk Mountain for 32 years, said there are no recorded sightings of the bird in Schuylkill County, and only three sightings in Berks County in the last 100 years.—DGP Steve Opet, Tamqua.



No Accounting for Tastes

CUMBERLAND COUNTY—Groundhogs living in the vicinity of a local driving range have developed an unusual diet. They eat the golf balls. Despite all the best grasses and clover planted on the range, these whistlepigs are eating the rubberized covers off of the golf balls.—DGP Jim Filkosky, Mechanicsburg.

Why?

While traveling over the Elimsport mountain recently, I came upon a six-foot pilot blacksnake crossing the highway. I swerved my truck to miss it and a car coming in the opposite direction did the same. The snake continued across the road and had just about made it when a pickup coming up the mountain behind me jerked to a stop and three mindless characters jumped out and beat the snake to death. Unfortunately, there are no laws protecting snakes, but these three individuals got a "message."—LM Dave Sloan, Jersey Shore.

Peanuts for Pachyderms

LAWRENCE COUNTY—My first animal complaint involved a candy store and a gray squirrel with a sweet tooth. My problem was trying to select the correct bait. I settled for a chocolate-covered peanut bar laced with two spoonfuls of peanut butter. I caught the squirrel, but getting those elephants out of the trap was rough.—DGP Gene Beaumont, New Castle.

You Just Can't Win

TIOGA COUNTY—In the latter part of June, I got a phone call from a man who was enraged about the woodchuck season. When I tried to explain the reasons for the season, he informed me that he knew all about the situation and that there were woodchucks running all over his property. Why couldn't the hunters rid his property of some woodchucks, he asked. I replied that this would be perfectly all right since chuck season had opened two weeks earlier. But he wasn't about to let hunters run all over his property after woodchucks!—DGP Lynn Keller, Wellsboro.

Eats Cabins

CAMBRIA COUNTY—Randy Stager, of Portage, was having problems at his cabin with groundhogs. He called Deputy Pete Lagana to assess the situation. The groundhogs chewed a hole in the kitchen floor. The hole was patched. The groundhog chewed a second hole, and it was patched. The groundhog chewed a third hole. Not satisfied with that, he ripped a hole in the screen door, pulled cushions and a blanket onto the floor, and walked over everything with muddy feet before Deputy Lagana finally caught him and ended his destruction.—DGP Dan Jenkins, Patton.

Doin' What Comes Naturally

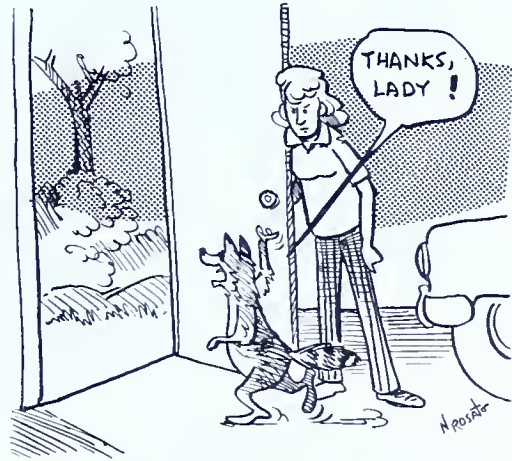
LEBANON COUNTY—Returning to the field after six years in the Harrisburg office, I found many things have changed. One thing, however, that hasn't changed is the foolish stuff people complain about. A woman called saying I had better do something about the squirrels in her neighborhood. When I asked what they were doing, she said they were running through the trees on the block, knocking down leaves and twigs and things, and she would like to have them removed. I politely informed her that if that was all the squirrels were doing, they were perfectly normal and were doing what squirrels do best. She seemed relieved and finally decided that she didn't have a problem after all.—DGP Ron Sutherland, Palmyra.

Bicentennial Note

BRADFORD COUNTY—Early settlers found that pitch from the jack pine tree burned bright and long and soon began using jack pine torches to shoot animals at night. From this came the term "jacklighting," a word used today to describe the illegal killing of game at night. And that's the way it was, 200 years ago today.—DGP Bill Bower, Troy.

Impressive

WESTMORELAND COUNTY—I worked with our Food and Cover Corps recently mowing food plots on the Loyalhanna flood control area. Each time I work with them I am amazed at the amount of work they accomplish, whether they're mowing food plots, planting crops, caring for turkey poults, stocking pheasants or any of the dozens of other jobs they do. Hats off to an often overlooked but indispensable part of the Game Commission team.—DGP Barry Moore, Saltsburg.

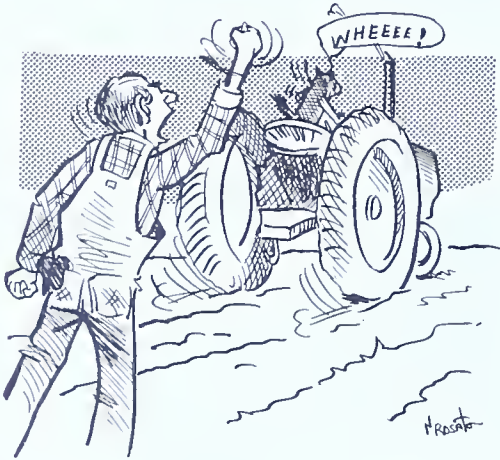


Really, Now

LANCASTER COUNTY—On my second day on the job I got a preview of things to come. The first complaint was from a woman who had a raccoon in her garage. It took a while to respond, as I was at the other end of the county. When I arrived, she was very upset that I hadn't come immediately. She said, "It took you too long to get here so I let the animal out myself." When I asked how, she replied, "I just opened the door." Back at my headquarters, I learned that someone had captured a groundhog in his yard and wanted me to pick it up right away. I rushed to the scene as fast as I could, but all I found was a very small bird cage with a very large hole in it. I know that groundhogs can whistle like a bird—but a canary cage!—DGP John Shutter, Lancaster.

Ingenuity

A passerby at Shenango would probably have done a double-take. Food and Cover Corps worker Guy Said was snowshoeing in June. Yes, indeed—snowshoeing over the mud and swamp with a Cyclone seeder, planting millet on the mud flats for waterfowl. Where there's a will, there's a way.—LM Duane Gross, Chapmanville.



Roadhog

MONROE COUNTY—Elwood Fener, of Stroudsburg, has had his share of problems with groundhogs over the years at his Cherry Valley farm. But recently, when he returned to his tractor after lunch to continue mowing, he found a large woodchuck standing on the seat looking things over. Putting up with the critters is one thing—but to have one try to hijack your tractor is the last straw!—DGP Dave Overcash, E. Stroudsburg.

Y'All Come!

VENANGO COUNTY—I would like to extend an invitation to all Pennsylvanians to visit the many State Game Lands throughout the year. It's a great place to see the effort put forth by conservation-minded people.—DGP Leonard Hribar, Oil City.

Snakes in the Grass

CENTRE COUNTY—Game Protectors and their deputies try hard to maintain and improve wildlife habitat, but we occasionally run into someone who doesn't appreciate it. This is normal, but it isn't normal to run into wildlife that is downright ungrateful. While patrolling in Boggs Township along a picturesque, secluded trout stream, Deputy Paul Bashore and I came across a large pile of litter. While going through the trash in search of some clue to the culprit's identity, a fair-size rattlesnake decided he didn't appreciate my cleanup efforts and tried to find out what my ankle tasted like. Luckily, his aim was bad. I certainly hope the rest of the local wildlife doesn't share his attitude!—DGP Lowell Snyder, Milesburg.

Togetherness

CRAWFORD COUNTY—Family involvement in our daily activities is said to be good, and Deputy Homer Hart is taking the advice to heart. He's getting his wife involved by asking for her assistance in picking up roadkilled deer. They can be seen together any time of the day or night making their rounds.—DGP Willis Sneath, Saegertown.

Scary Little Fella

SNYDER COUNTY—It constantly surprises me how little most people know about wildlife. I got a call the other day about a snake invading a home in Shamokin Dam. Everyone was worried that it was a venomous copperhead. When I arrived to identify the snake, it was neatly wrapped and frozen in a baggie. It turned out to be a 6-inch eastern milk snake. Everyone from the neighborhood to the police department and even the borough council was relieved to find out that they are not being overrun with copperheads.—DGP Dave Myers, Selinsgrove.

Not That Easy, Son

LYCOMING COUNTY—Game Farm Superintendent Gene Nelson was driving along a remote mountain road with his five-year-old grandson, Sean, when he came upon a doe giving birth to her second fawn in the middle of the road. The doe's first fawn wobbled on spindly legs beside her. Sean asked if they could pick up the fawn and take it home. Gene replied that they couldn't because the doe would miss her "baby." To this Sean retorted, "So what? She can lay another one!"—DGP Bill Hutson, Muncy.



Never a Dull Moment

MERCER COUNTY—Assignment to this county has brought its share of surprises, such as an otter inhabiting a local stripmine, a bobcat prowling a swamp, and a mother bear and two cubs on tour throughout the county. What will the *busy* season bring?—DGP Frank Zalik, Mercer.



Enticing Aroma

ELK COUNTY—Lots of damage complaints lately—gardens and farm crops, along with bear damage to corn, bees and garbage cans. Then there's Mrs. Regis Herzing, who brings a bear into camp every time she bakes bread. Can't really blame the bear; homemade bread will draw most everything and everyone.—DGP Harold Harshbarger, Kersey.

Calling All Turkeys

JUNIATA COUNTY—In June I had the opportunity to be master of ceremonies at the first Juniata County turkey calling contest. If you have never attended one of these, you're really missing something. The variety of mouth, slate, rubber, wood, diaphragm, box and rattle calls were fascinating and the results were astounding. The next time you see a contest advertised, plan to attend. It's really worthwhile.—DGP Bob Shaffer, Mifflintown.

Free Lunch

COLUMBIA COUNTY—Last summer, Waterways Patrolman John Weaver, of Benton, often joked with me about crop damage to his red beets and beans by deer, rabbits and woodchucks. When Special Waterways Patrolman Wayne Yorks, also of Benton, mentioned that John had planted this year's garden, I decided a joke of my own was in order. Right smack in the middle of the red beets, I planted a blue-and-yellow Game Commission poster announcing in large letters, "FOOD & COVER FOR WILD-LIFE." A month later, John asked if I had any more of those signs. This is the first year he could remember that he didn't have wildlife damage. He remarked that animals are just like humans—you offer them something for nothing and they turn up their noses.—DGP Ed Sherlinski, Mifflinville.

Adventures in the Future

HUNTINGDON COUNTY—To many of us, an adventure with nature means running the rapids in the Grand Canyon or taking a trophy elk, deer or bear. Whether the urge for these adventures is inherited or taught to one generation by another, they are cherished by practically all who experience them. Yet for a family I met from New York City, their “thing” was catching fireflies on a warm summer night. Many of us have become so far removed from nature that any normal contact becomes a great and memorable event! If we follow our present course, we may so reduce our true wealth that all we’ll be able to find some day are insects.—DGP Philip Lukish, Huntingdon.



Always a New One

ERIE COUNTY—While patrolling, Deputy Rick Kreider saw two fellows running their coon dog about a month too early. After the dog treed the coon, Deputy Kreider was approaching them when he heard one of them say, “Maybe he can answer your question.” The other fellow turned to me and asked, “What would happen if you were out walking your dog, and a coon came by and ran up the tree? Is it all right to let your dog jump up and down on the tree?” Just when you think you’ve heard them all . . . —DGP Wayne Lugaila, Waterford.

Tourist Attraction

CLINTON COUNTY—On my way to the division office I noticed a camper parked along the highway. A man and woman were alongside standing over a pile of old cans. Thinking they might have dumped the cans, I stopped and questioned them. To my surprise, they had just retrieved them from a nearby trout stream. They were nonresidents and members of “Beer Can Collectors of America.” Only one thing bothered me. They remarked that Pennsylvania was the best state in which to collect beer cans along the streams! Embarrassing, isn’t it?—DGP John Waserman, Renovo.

New Handle

ERIE COUNTY—Many names have been given to the groundhog, such as woodchuck or whistle-pig, but recently I heard a new one . . . “pasture-poodle.”—DGP Andy Martin, Erie.

Dad’s Not So Dumb . . .

MONTOUR COUNTY—Two years ago my son Timothy decided to build a birdhouse for his 4-H wildlife project. Using the Game Commission’s book *Pennsylvania Birdlife*, which gives specifications for houses for different species, Tim decided (after some comments from Dad) to build a bluebird house. We placed it in a fencerow on the hill behind our house early the next spring. The year passed and no birds used the “blue ribbon” home. Tim had a few comments about my knowledge of birds. This spring the bluebirds came through on their migrations early. About three weeks after they had passed by, I noticed a beautiful male in a tree behind our kitchen window. Later that day Tim came in, quite excited. “Guess what’s building a nest in the birdhouse—bluebirds!” Thank heavens. Faith in Dad has been restored and I have a proof-of-the-pudding example to cite when handing out the books at programs for local Scouts, 4-H’ers, etc. And we have bluebirds to enjoy around our home.—DGP Dick Donahoe, Danville.



By Ted Godshall

25-Year Club

Pennsylvania Game Commission personnel have compiled an enviable record among public and conservation agencies for longevity of service. Few organizations in any area of endeavor can boast so many dedicated employees. The most recent PGC employees to complete 25 years of service are shown on this page.



Samuel C. Schaffer
Radio Comm. Asst.
Harrisburg



Stephen A. Liscinsky
Wildlife Biologist
State College



Norman J. Forche
Game Conservation Officer
Montrose

Management Success

Many sportsmen are aware that hunter-financed wildlife management programs have been responsible for restoring to healthy population levels such popular game species as the white-tailed deer, pronghorn antelope and elk. Less known, is the fact that hunter dollars have supported management efforts directed at restoring a variety of non-game species. Here are a few historical comparisons:

Egrets and Herons: 1910—Several species on the brink of extinction. Today, most species common to abundant over most of the United States.

Trumpeter Swan: 1935—73 survivors south of Canada on one wildlife refuge. Today, thriving populations on two national parks and several national wildlife refuges. Removed from endangered status in the late 1960s.

Sea Otter: 1907—Nearly extinct; a few survivors in Alaska's Aleutian chain and in coastal California. Today, minimum of 50,000; successfully restored to waters of mainland Alaska, Oregon, Washington, and British Columbia.

Waterfowl Seasons Set

WATERFOWL seasons and bag limits for 1976 have been established by the Pennsylvania Game Commission within frameworks set up by the U.S. Fish and Wildlife Service.

There will be split seasons this year on both ducks and geese, hunters will be able to shoot and possess either one canvasback or one redhead duck for the first time since 1971, bonus scaup may be taken on Lake Erie and Presque Isle Bay throughout the entire duck season, and hunters will be able to harvest both snow and blue geese in Pennsylvania again this year.

The initial season for ducks, coots, mergansers and Canada geese will open at noon on Wednesday, October 13. The early season on ducks, coots and mergansers will end at sunset on Saturday, November 20, while the early season for Canada geese will end on Saturday, December 4.

The second season for ducks, coots and mergansers will open at noon on Wednesday, December 1, and close at sunset on Saturday, December 11. The second season for Canada geese will open on Thursday, December 30, and close on Saturday, January 15.

The season for snow and blue geese will open at noon on Wednesday, October 13, and close at sunset on Thursday, November 11.

No hunting will be permitted for any wild birds or wild animals before noon on Wednesday, October 13, except that deer may be taken with bow and arrow, and upland game birds may be taken on regulated shooting grounds.

Hunters interested in applying for goose blinds at the Middle Creek Wildlife Management Area in Lebanon and Lancaster Counties or at the Pymatuning Waterfowl Area in Crawford County should note that the opening day of waterfowl hunting at Middle Creek will be Thursday, October 14, and waterfowl hunting will begin at Pymatuning on Friday, October 15.

The daily bag limit for ducks will again be 4, with a possession limit of 8 after the first day. Hunters this year may again take 15 coots daily, with a possession limit of 30. The 1976 bag limit on mergansers remains at 5 daily and 10 in possession.

Three Canada geese may be taken per day, except in Crawford County (including the Pymatuning Waterfowl Area) and at the Middle Creek Wildlife Management area in Lebanon and Lancaster Counties, where the daily limit will be 1. The possession limit on Canada geese will be 6 after the first day of the season.

A gunner may not take more than 2 wood ducks per day, and he may not



THE REDHEAD DUCK (male shown) reaches a length of about 22" and a weight of 3 lb. Flocks fly in irregular and V-patterns, with rapid wingstrokes. They like marshy areas, lakes, ponds and bays, and eat aquatic vegetation.



THE CANVASBACK (male shown) typically flies in high V or irregular formations. Wingstrokes are fast and powerful. Habitat includes marshes, bays and ponds, and aquatic vegetation is the preferred food. Reaches 24" length, 3¾ lb. weight.

have more than 2 woodies in his possession at any time after the opening day.

Not more than 2 black ducks may be taken daily this year, and a hunter may not have more than 4 of the species in his possession.

Although the daily limit on mergansers is 5 with a possession limit of 10, not more than 1 hooded merganser may be taken daily, and the possession limit on hooded mergansers is 2.

During the regular duck season, hunters may take 2 scaup daily in addition to the regular duck limit, but only on the waters of Lake Erie and Presque Isle Bay. The possession limit on the extra scaup is 4.

The daily bag limit on snow and/or blue geese will be 2, with a possession

limit of 4. Hunters may again take 7 sea ducks daily, with no more than 14 in possession after the first day of the season.

On the opening day of the regular small game season, Saturday, October 30, it will be unlawful to take any wild birds or any wild animals, migratory or otherwise, before 9 a.m. in Pennsylvania.

Otherwise, regular waterfowl hunting hours will be from one-half hour before sunrise until sunset, except at the Pymatuning Waterfowl and Middle Creek Wildlife Management Areas, where special shooting hours will be in effect.

The table on the following page summarizes the 1976 Pennsylvania waterfowl and other migratory game bird seasons and bag limits.

New Tree Stand Restrictions

Pennsylvania hunters will be further restricted this year in the erection and use of tree stands, platforms, climbing devices, etc., according to the Game Commission.

Under newly-enacted provisions of The Game Law, it is unlawful to damage any tree or trees in any manner on public or private property while hunting or while preparing to hunt as a result of

(a) Constructing any tree stand, platform, or any other man-made support of any description;

(b) Using a portable tree stand;

(c) Using any climbing device or implement of any description.

Provision (a) above does not prohibit the use of tree stands. It simply prohibits the damaging of any tree in any manner as a result of building or using a tree stand of any description, climbing devices, etc.

A landowner or any person to whom a landowner has given written permission in advance will not be affected by the new legislation.

Any person violating the provisions of the new law is subject to a \$25 fine, in addition to payment for damage done to any tree.

Busy Bee Facts

Bees may have to fly 13,000 miles to gather enough nectar for one pound of honey. The walls of a honeycomb, an eightieth of an inch thick, can support 30 times their weight.

Living Relic

The American alligator has survived almost unchanged for more than 35 million years. It is a direct descendant from the Mesozoic period—an age of dinosaurs and flying reptiles.

1976 PENNSYLVANIA OPEN SEASONS FOR WATERFOWL AND OTHER MIGRATORY GAME BIRDS UNDER FEDERAL AND STATE REGULATIONS

SPECIES	Open Seasons		Daily Bag Limits	Maximum Possession Limits	SHOOTING HOURS
	First Day	Last Day			
DOVES	Sept. 1	Nov. 9	12	24	12 o'clock noon to sunset.
†RAILS (Sora and Virginia)	Sept. 1	Nov. 9	25††	25††	One-half hour before sunrise to sunset (except on October 30, when the opening hour will be 9 a.m.).
GALLINULES	Sept. 1	Nov. 9	15	30	
WILSON'S or JACKSNIPES	Oct. 16	Dec. 18	8	16	
WOODCOCK	Oct. 16	Dec. 18	5	10	
†No open season on other species of rails.					
††Singly or in the aggregate of species.					
DUCKS			4*	8*	One-half hour before sunrise to sunset. EXCEPTIONS: 1. Noon until sunset on October 13. 2. 9 a.m. until sunset on October 30. 3. Noon until sunset for ducks, sea ducks, coots, mergansers on December 1. 4. Controlled shooting sections of Pymatuning Waterfowl Area: 9 a.m. until noon on Oct. 30; on other shooting days (Mondays, Wednesdays, Fridays and Saturdays), one-half hour before sunrise to 12 noon. 5. Controlled shooting section of Middle Creek Wildlife Management Area: 9 a.m. until noon on Oct. 30; on other shooting days (Mondays, Tuesdays, Thursdays and Saturdays), one-half hour before sunrise to 12 noon.
SEA DUCKS (Sooter, Eider and Oldsquaw)	Oct. 13	Nov. 20	7**	14**	
COOTS	Dec. 1	Dec. 11	15	30	
MERGANSERS			5***	10***	
	Oct. 13	Dec. 4	3****	6	
CANADA GEESE					
	Dec. 30	Jan. 15			***Not more than 1 hooded merganser daily; possession limit of 2. ****Daily limit of 1 goose in Crawford County and at Middle Creek Wildlife Management Area. Extra Scaup: Restricted to waters of Lake Erie and Presque Isle Bay; daily bag limit of 2 and possession limit of 4 in addition to above duck daily bag and possession limits.
SNOW and BLUE GEESE	Oct. 13	Nov. 11	2	4	
EXCEPTIONS: *Daily bag limit of 4 ducks may not include more than: 2 black ducks, 2 wood ducks, 1 canvasback or 1 redhead; maximum possession limit may not include more than 4 black ducks, 2 wood ducks, 1 canvasback or 1 redhead. **Singly or in the aggregate of species and does not count in the daily or possession limits of ducks.					

ON THE OPENING DAY OF SMALL GAME SEASON, SATURDAY, OCTOBER 30, 1976,
IT IS UNLAWFUL TO HUNT ANY WILD BIRD OR WILD
ANIMAL, INCLUDING MIGRATORY GAME, ANYWHERE IN PENNSYLVANIA
PRIOR TO 9 A.M. SUNDAY HUNTING PROHIBITED.
(NO OPEN SEASON — BRANT AND SWANS.)

MIGRATORY BIRD HUNTING METHODS — Permitted: Dogs; artificial decoys; longbow and arrow; shotgun not larger than 10 gauge and incapable of holding more than 3 shells; bird calls, except recorded or electrically amplified calls or sounds or recorded or electrically amplified imitations of bird calls or sounds; blinds; floating craft (except sinkbox) including those propelled by motor, sail and wind, or both; when the motor of the craft has been completely shut off and/or the sails furlled, as the case may be, its progress therefrom has ceased, and it is drifting, beached, moored, resting at anchor or is being propelled by paddle, oars or pole, or if the craft is used solely as a means of picking up dead or injured birds. Prohibited: Trap, snare, net, crossbow, rifle, pistol, swivel gun or machinegun; shotguns capable of holding more than three shells unless gun is plugged to 3-shot capacity so that plug cannot be removed without disassembling gun; sinkbox, motor-driven conveyance, motor vehicle or aircraft; shooting from motorboat or craft under power; live decoys; recorded or electrically amplified bird calls or sounds or imitations thereof; motor-driven land, water or air conveyance or sailboat used for the purpose of or resulting in concentrating, driving, rallying or stirring up migratory birds or waterfowl; salt or bait. No person may possess or transport more than the daily bag limit or aggregate daily bag limit.

FEDERAL STAMP FOR MIGRATORY BIRD HUNTING—No person who has attained the age of 16 years shall take any migratory waterfowl (ducks, sea ducks, brant, mergansers, geese) unless at the time of such taking he has on his person an unexpired Federal Migratory Bird Hunting Stamp (duck stamp), validated by his signature written across the face of the stamp in ink. A person who has not reached his 16th birthday does not have to have a stamp. This stamp is not required to hunt doves, rails, gallinules, woodcock, coots, or Wilson's or jacksnipe. Federal Migratory Bird Stamp available at U.S. Post Offices.

NOTE: One fully feathered wing or the head must remain attached to each migratory bird (except doves) while being transported. Migratory game birds left in the custody of a person other than the owner must have a tag attached, signed by the hunter, stating his address, the total number and species of birds and the date such birds were taken and either (1) his automobile or principal means of land transportation; or (2) his personal abode or temporary or transient place of lodging; or (3) a migratory bird preservation facility; or (4) post office or common carrier facility, whichever one he arrives at first.

Stewart Rager, Senior Deputy

By Wes Bower
CIA, Southcentral Division

ON AUGUST 26, 1927, Stewart R. Rager took the oath as Deputy Game Protector and solemnly shook hands with the Mifflin County Game Protector, Ralph E. McCoy. Today he is the senior active deputy in the entire state.

How did it all come about? "Well," Deputy Rager explains, "Ralph McCoy came to me and asked if I wanted to be a deputy. I loved the woods, enjoyed hunting, and believed in the Game Commission's programs. So I jumped at the chance."

The Game Commission lost no time in using the new deputy's field experience. The 1927 hunting season found him in Potter County, working in big game country. Stu recalls that the local justice of the peace set up headquarters in a tent along Route 44 and handled Game Law violations.

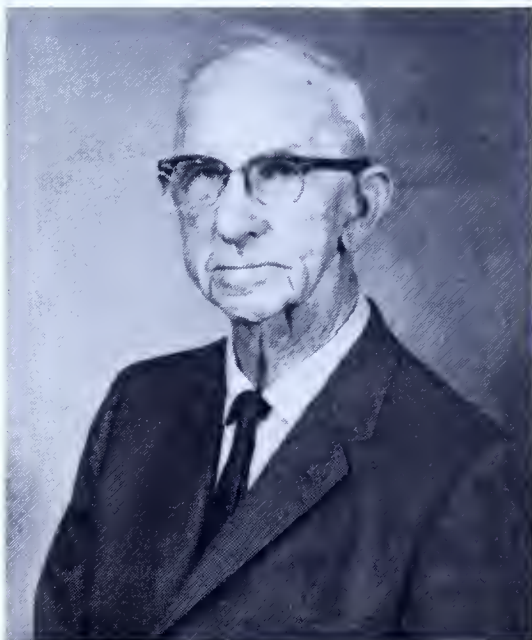
Working for the Game Commission seemed a natural thing for Rager. He started hunting in 1900 when he was 12 years old. "At that time if we saw deer sign we would get a group of fellows and track it," Deputy Rager reminisced. "If the deer crossed a road or trail, we would tramp the deer sign out. We would follow it until dark, then take the track the next day. At the turn of the century we only had a couple of hundred deer in the entire state."

Rager also recalled that in 1927, 14,374 bucks were harvested and no doe hunting was allowed. This past year 71,986 bucks and 66,209 antlerless deer were harvested for a total of 138,195.

Worked for Six DGP's

A check of Game Commission records indicates that this senior deputy worked for six district game protectors: Ralph E. McCoy, George Smith, Jim Moyle, Jim Shook, Terry Saylor, and William McIntire.

Rager's room is filled with memorabilia, including two trophy-size



STEWART RAGER, who lives near Reedsville in Mifflin County, is the senior active deputy game protector in Pennsylvania. He has been working in this capacity since 1927.

bucks which adorn the wall. Stewart nostalgically described hunting from tents on the mountain 12 miles from the nearest road. They carried in all their gear, including chaff ticks which they filled at the nearest farmer's barn. They made a stove from sheet iron to keep warm and hunted every day of the season.

Rager's full time job was as a blacksmith for Bethlehem Steel Co. at the Naciney Quarries. Even after retirement he continued to do some blacksmithing for Bethlehem Steel and for other local contractors. He also served for 25 years as the constable in Armaugh Township along with his during his younger years as the constable in Armaugh Township. A busy schedule for this active outdoorsman!

Some highlights of this deputy's career included a lengthy stakeout of a game refuge to catch a group who were destroying signs and cutting and steal-

ing wire. Twelve deputies worked around the clock in eight-hour shifts until the group was finally apprehended. Game Commission records reveal that Rager's career was filled with successful prosecutions for jacklighting deer.

This oldest deputy was asked about his thoughts on the Commission's most significant achievements and the high spots of his 49-year career.

He said, "Well, in 1928 we had our first statewide doe season except for a few counties. Then in 1931 they had open season on both buck and doe. About 95,000 deer were harvested."

Deputy Rager also remembers the opening of the training school in 1936. He reminisced about the "big years" of 1938 when 171,662 antlerless deer were taken, and 1940 when 186,575 deer were harvested. He enthusiastically recalls the expansion of the

turkey population from the early days of virtual non-existence to their present abundance.

Rager's Game Commission activities are now somewhat limited. However, Stewart's door is always open and Game Commission people still stop by to say hello and listen to Pennsylvania's oldest deputy spin yarns and relate interesting anecdotes of the past.

Visiting Stewart Rager in tiny Shrader Village near Reedsville in Mifflin County leaves you with an appreciation of the Game Commission's past achievements and a deep sense of respect for a deputy who spent many years working for what he believed in.

In this year of the Bicentennial, Pennsylvania sportsmen owe a special debt to Stewart Rager and other deputies like him who have helped many Pennsylvania Game Commission programs work.

Of Blondes and Redheads . . .

Jack Frost's legendary paintbrush actually has less to do with the beauties of autumn color than does a simple bit of biochemistry, according to the U.S. Forest Service. And which of the warm hues each tree will display is determined primarily by heredity. Some turn red, some bright yellow, some a deep purple—just as some people have red hair, some blonde, and some black. It's all in the pigments.

Xanthophyll produces the yellow color, but during spring and summer it's masked by the green chlorophyll used for producing food. The tiny chloroplasts within each cell are nourished by water and minerals carried through leaf stems. This flow is cut off, however, when a corky layer of tissue grows between twig and leaf stem as cool weather arrives. Then the chlorophyll-containing bodies die and the yellow pigments are visible. From the pale yellow of

beech to hickory's deep gold, xanthophyll is the base of the palette.

Formation of red tones is a bit more complicated. These colors are formed from sugars which are trapped in the leaf when moisture- and mineral-barring tissue forms. The plant converts the sugars into red and purple pigments.

The variation in autumn's splendors from year to year results from differences in weather. Cool weather accelerates both the sugar-conversion and the chlorophyll-removal processes. Jack Frost isn't really necessary at all; in fact, a heavy frost may kill the leaves, causing the colors to disappear.

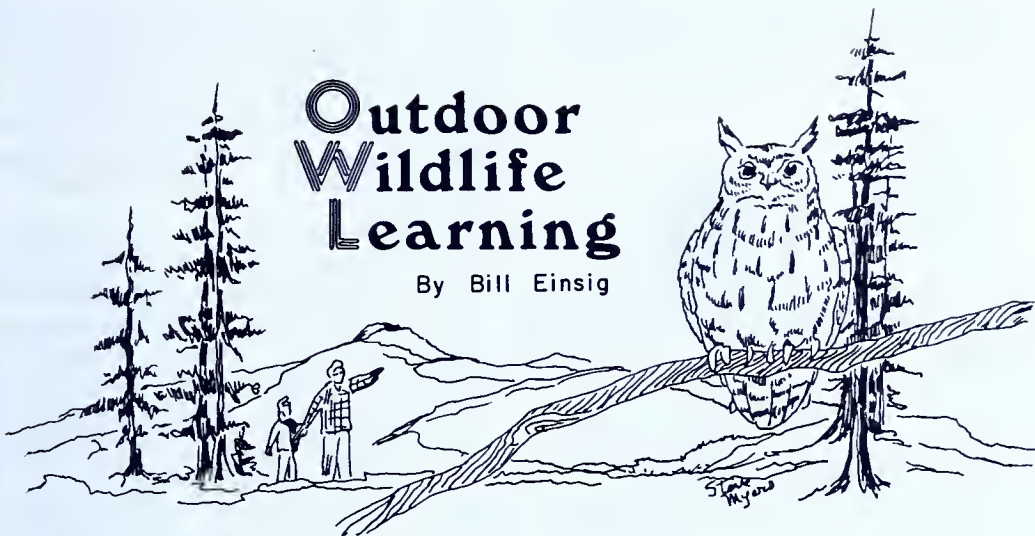
Knowing the *why* of fall colors in the woods doesn't detract one bit from the wonder and beauty of those glorious days filled with knife-sharp air and flaming color. Get out and enjoy them.

Better Than "Good Old Days"

From only a few thousand at the turn of the century, wild turkey numbers have increased to an estimated 1¼ million in the U.S.

Outdoor Wildlife Learning

By Bill Einsig



Free Goodies!

Two excellent directories of conservation education materials are available for teachers, youth leaders, and anyone else interested in learning more about the outdoors.

The "Directory of Sources of Conservation Education Materials" has been compiled by the Lebanon County Conservation District. The 26-page booklet lists a wide variety of materials available from state and federal agencies as well as a number of commercial publishers. Each entry includes a brief description, cost if any, and full address for ordering. Request your copy from Clair H. Gerberich, Executive Assistant, Lebanon County Conservation District, Box 93, Lebanon, PA 17042.

Another new resource directory finally compiles in one booklet the materials from a number of state agencies. "Resource Inventory for Environmental Education" has been written by a committee of representatives from the Game Commission, Fish Commission, Department of Education, Department of Environmental Resources, and the Dauphin County Conservation District. The inventory describes all resources available to the public through the Game Commission, Fish Commission, and the Bureaus of Forestry and State Parks of D.E.R. Perhaps of even greater value than printed materials are the names, addresses, and phone numbers of key staff in your local region. These people can answer many of your questions and are ready to help solve your problems.

Request your copy by title from Robert W. Schville, Bureau of Curriculum Services, Department of Education, Box 911, Harrisburg, PA 17126.

Naturally Wild

Scattered across Pennsylvania are many tracts of land—located mostly in state forests—that have been designated as natural areas or wild areas. These relatively new designations are an attempt to protect and preserve for the public areas of the state with significant natural value.

Natural areas usually include some unique plant community. The beautiful Alan Seeger area in Huntingdon County includes a stand of virgin hemlock and white pine. Nearby Bear Meadows protects a spruce-fir bog community. Most of the 44 natural areas are under 1000 acres; 13 locations exceed that mark. Special regulations governing the use of natural areas prohibit timber harvest, leases, rights-of-way, and mineral development. Travel through the areas is by foot trails and only primitive backpack camping is permitted in designated areas.

The 13 wild areas are generally much larger tracts of land set aside for public use such as hiking, camping, hunting and fishing. The smallest area is Trough Creek which comprises 1757 acres adjoining the Raystown Dam in Huntingdon County, while the largest is the imposing Quehanna Area of 46,163 acres covering portions of Elk, Cameron and Clearfield Counties. In wild areas, trails are open to hiking, bicycling and horseback riding. Camping is limited to overnight primitive backpack type and only licensed motorized vehicles are allowed on the few access roads still open.

The Bureau of Forestry has a handy brochure listing all natural and wild areas with pertinent information. It is called "Natural and Wild Areas in Pennsylvania"

and is available from the Department of Environmental Resources, Bureau of Forestry, Box 1467, Harrisburg, PA 17120.



Seedy Idea

Good ideas come from many sources. Recently, Harry Zuver of Palmyra described something he does regularly that could form the basis of a very interesting and novel activity. Harry collects fruits and seeds of wild plants while in the field hunting or fishing and plants them in a small garden at home. When the seedlings are large enough, he transplants them into areas where he feels the wildlife could use more food. Many of the seedlings are eaten immediately, but with a bit of protection some seedlings do mature and provide food and cover for wildlife. Harry is therefore accomplishing more than a one-time feeding of the wildlife he cares about—he is improving habitat, which with careful planning will provide much greater long-term value.

Teachers and youth leaders of all kinds can draw several good activities from Harry's example. For instance, instead of having your students grow peas, beans, or marigolds, let them grow wild plants from seeds they have collected themselves. It would be fun to give each student a handful of "mystery" seeds and assign them to tell you by some suitable date what plant produced those seeds. Not only would the students observe the germination and growth processes as they would with a pea, but they would also become intimate with at least one (and probably many

more) wild plant that they will confront again and again in their gardens or walks afield. In addition, the students would begin to recognize the importance to wildlife of what they may have considered "worthless weeds." After all, a pea is a pea is a pea—but a "mystery" seed is a challenge!

If your local school is enlightened enough to give up some precious turf, perhaps a class could develop a feed plot with seeds collected from more natural areas. Once the plot is established, provide nesting boxes and a water supply. Before you know it you'll have a small wildlife observatory that will be used not only by school groups but by community residents as well. Most school grounds could benefit in many ways by establishing a nature area adjacent to the school, but smooth Kentucky Blue and ornamental trees seem to be the order of the day—unfortunately.

If you can't plant on school grounds, you might approach private landowners or local governments for a cooperative program. Avoid State Game Lands since they are already being managed for wildlife food and cover; planting your seeds there might interfere with the land managers' existing programs.

The seeds themselves hold many lessons in natural adaptation and diversity. Students could be given a number of different seeds and asked to hypothesize about how the seed is dispersed and in what ways the seed is especially designed for this method of dispersal. Dandelions, milkweeds, and thistles have parachutes; ashes and maples are winged; burdock, stickights and pitchfork weed have hooks and barbs. Not all adaptations are this obvious, but the seeds of all plants are designed for maximum survival advantage and our sense of wonder is increased when we see how each organism has been designed to fill its own particular niche.

Thanks to Harry Zuver for his "seed" of an idea.

A Word About Letters . . .

Many of the ideas and bits of information in this column come from people who simply like the outdoors. Your ideas and comments are always welcome. So, right now, why not write a note and include an idea or two and share what you've learned with the rest of us? Send all correspondence to: Bill Einsig, 1912 Karyl Lane, York, Pa. 17404.

Sit and Wait?

(Part One)

By Susan M. Pajak

IN SOFT October, when green leaves begin to blush, hanging lush and dew-heavy; when sudden searing afternoons ooze perspiration mingled with wayward punkies; and when, at October's end all the woodland gathers unto itself to await winter's ermine cloak, the sylvan bowhunter, like her sisters before her, steadfastly perceives the forward movement of an alert, pepper-brown deer . . .

Each knows by aboriginal instinct that the other is there; to the deer, she is an obstruction, a foreign form that only a darkness before was not revealed on the path so carefully plodded; to the huntress, her prey . . .

True it is that many an arrow will find its mark this bow season. But true it is also that a number of bowhunters will not find the deer afterwards. Consequently, they will feel they somehow have sinned and should be ostracized because of their inability to locate the deer.

Yet perhaps they really shouldn't blame themselves; if the blame lies anywhere, it might be with the writer or hunter who told them to sit down and wait a half-hour so that the deer "has time to expire . . ."

Who says so? Who can say that when a deer is arrow-struck it is ultimately going to run off and expire? Who can guarantee that this generation-to-generation counseling works in the absolute all of the time?

Some thoughts on the subject, to include personal experiences of others as told to me, suggest that unless a deer drops in its tracks right before your eyes, and stays down, or goes off a few feet and tumbles, one should not assume that that deer is "down for good" some hundred yards away.

If a deer is "hit good" (as is said so often) but is still on its feet, or gets to its feet quickly and moves out, is it



THE QUESTION of how quickly to follow up a wounded deer has plagued hunters for generations. Archers, perhaps even more than gunners, must consider it.

entirely wrong to suggest that maybe you should follow it, or move it, immediately, and not a half-hour later?

Too much can happen in that long half-hour; for one thing, you have lost sight of the deer, something to think about, surely.

Quite often, the arrow which strikes a deer does not remain in the animal. Some bowmen claim the deer kicks it out, bites it off, or dislodges it by rubbing against a tree, apparently viewing it as an aggravation such as a fly bite or whatever. I'm not sure if deer act so deliberately. However, there's no doubt that in moving through brush the arrow can be pulled out or broken off.

GIRLS, GUNS, & GAME...

With the source of aggravation gone (supposedly), the deer will seek out a secluded area to rest and heal, usually continuing on the original path when struck. Sometimes a deer will backtrack because it found no danger on the path earlier.

When injured, living things will first try to heal; living forms are not programmed to go off and die; living forms are programmed to live. When a deer is struck and then followed (pushed/moved) it will walk faster; the faster movement of the deer probably

causes blood to continue to flow from the entrance wound, keeping it open and preventing rapid coagulation. It can not heal over so long as it is moving, or being pushed . . .

If not pursued, the deer will go off, albeit slower, perhaps allowing the wound to close. The deer moves slower, the wound closes over, the blood coagulates. No trail to follow . . . no deer to find . . .

Is it too far out to assume that leaving a blood trail for a predator to follow is very dangerous for the wounded animal, and that over the millennia, animals which could avoid this have survived better?

Is it too far out to assume that these paragraphs have given you, hopefully, some insight as to the importance of the old phrase "make the first shot count"?

We'll discuss this further next month.

* * *

Tips: Always keep a couple of candles and a pack of matches in camp in case of power outages. Store out of reach of a possible nibbling field mouse.

Book Review . . .

The Hunting Hypothesis

Robert Ardrey sums up his hypothesis thus: "While we are members of the intelligent primate family, we are uniquely human even in the noblest sense, because for untold millions of years we alone killed for a living." This is a conclusion that will repel many, seem perfectly logical to others. In attempting to answer the question, "What made man man?" Ardrey concludes it was hunting. He reviews man's distant past in terms of fossil evidence and animal behavior, and finds clues which suggest that only meat eating (for which hunting was indispensable) made the human body possible. Hunting also made man aggressive—and cooperative. Without these characteristics, hunting success would have been impossible in times when there was no weapon other than the hand-held types. Apparently man's uniqueness is due to a blending of carnivorous ways and primate intelligence over millions of years. Because today's "normal" way of life is really but a moment in man's time on earth, Ardrey feels we are basically a hunting-being in a new setting. Still ingrained in us is the hunting instinct—an instinct too complex to be readily understood, for hunting and hunters are more easily observed than explained. Ardrey doesn't discuss hunting today or the hunting controversy; instead, his latest book is an intellectual—but extremely readable—excursion extending over ten million years into our past. It's your ancestors and mine that he's writing about. We all should read and digest what he has to say. (*The Hunting Hypothesis, A Personal Conclusion Concerning the Evolutionary Nature of Man*, by Robert Ardrey, Atheneum Publishers, 122 E. 42nd St., NYC 10017, 242 pp., \$10.)

Game Dinners

By Les Rountree

HUNTING FOR and eating wild game have long been traditional activities in Pennsylvania. Two hundred years of our nation's existence has not dimmed that tradition one bit. As a matter of fact, more game is bagged and consumed today than ever before. I know that's hard for some urban dwellers to believe, but it's nonetheless a fact. The original virgin forests, while undoubtedly beautiful to gaze upon, were not terrifically productive in the game department. To be sure, there were deer, elk, turkey and bears in reasonable numbers, and even bison in the western part of the commonwealth, but not too many people were engaged in hunting them. While some individualistic backwoodsmen trapped and hunted only for pleasure, the great majority of professional hunters shot game for the marketplace. It was a simple business operation to them.

The early colonists were amazed to discover that game could be taken by anyone with the inclination, and they enjoyed eating it. This was not the case in the Europe they had left. Wild game was reserved for those of noble or positioned birth, and the common man didn't have many opportunities to sample it. Even today in Europe, game is largely a rich man's meal, with the surplus from private estates being sold in the marketplace as another crop such as corn or wheat. In much of the United States, and particularly in Pennsylvania, this was not the case. The concept of harvesting the surplus is still a difficult thing to "sell" to some protectionists, although it must be done. Since game may not be sold today, it is the hunter's good luck that he is the one who will enjoy more game dinners.

Families, groups of friends, hunting clubs and fraternal organizations have long made a game dinner a regular part



WITH A HAUNCH of venison as the main course, clams on the half shell, and numerous side dishes to give a variety of tastes, it's easy to understand one reason for hunting.

of their fall festivities. At the Rountree house we have annually held a game cookout for friends and neighbors. It's a fun thing to do, and I'll readily admit that it's probably a throwback to the cave man philosophy of showing off to the "tribe" and proclaiming symbolically and factually that we are effective providers.

Non-hunters may seize on this as being barbaric and uncivilized, but I'll defend the practice as being far more realistic than penning up a flock of domestic animals and then slaughtering them at will. But rather than getting all wound up in mind-boggling abstractions, I'd much rather talk about some of the delicious wild game recipes that we've been enjoying over the past year.



THIS IS THE end result of the rabbit rice casserole recipe suggested by Mrs. Martha McGinnis, of Bedford. To say it's good is an understatement!

Many of the concoctions that will be listed in this month's offering have been sent to us by GAME NEWS readers. One thing is for sure . . . Pennsylvanians not only do a lot of hunting but also a lot of game cookery. They have many favorite game dishes but still experiment prodigiously.

Last season saw a few more rabbits than usual come into the Rountree kitchen. I honestly believe there were more rabbits to shoot at last year. There had to be, as far as I'm concerned, because I have a difficult time hitting running rabbits. I do much better on flying game than I do on bounding bunnies so I need more opportunities.

Before I get into the rabbit recipes, I can't help but mention a conversation I had with Bernie Parent, the Philadelphia Flyers goalie, a few months ago. When he's not stopping hockey pucks, Bernie is hunting, fish-

ing or enjoying the fruits of the field at the table. Being a Montrealer, a city known for its gastronomic delights, I expected Bernie to name some exotic dish as his favorite game entree. Nope, it was fried rabbit. For a flamboyant Frenchman, that's about as down to earth as one can get. Not only that, he said that following a pair of beagles (an acquired American preference) was to him the ultimate hunting experience. There, Bernie, you just picked up a half-million new Pennsylvania fans, for if there's anything that's loved by Keystone hunters, it's chasing rabbits with a couple of melodious hounds.

The following tremendous rabbit recipe came from Betty Holterman of Gillett, and is guaranteed to please the most discriminating taste buds.

Hasenpfeffer

- 2 cut-up rabbits (about 2 1/2 lbs.)
- 1 1/2 tsp. salt
- 3 tbs. butter
- 1 medium onion
- 12 peppercorns
- 1 bay leaf
- 1/4 cup lemon juice
- 4 whole cloves
- 1 parsley sprig
- 1/2 tsp. dried thyme
- 1 cup port wine
- 2 cans (10 1/2 oz. size) condensed beef bouillon, undiluted

Rinse rabbit in cold water, pat dry with paper toweling and rub with the salt. Sauté in butter in a skillet until browned on all sides and remove to a 3-quart casserole. Add onion stuck with cloves, port and lemon juice to the casserole. Put peppercorns, parsley, thyme and bay leaf in a cheesecloth bag and add to the dish. Pour the bouillon in, cover and bake 1 1/2 hours at 350°. Discard onion and cheesecloth bag before serving.

Mrs. Holterman suggests making a gravy out of the good pan juices to pour over the rabbit. I'm sure it would be excellent; however, I was a bit rushed the evening we tried this recipe and just ten minutes before it was due to be served, I threw a handful of minute rice in the casserole. There wasn't an ort of



rice or rabbit left on the table—delicious! Currant jelly goes well with this dish.

This bunnies-with-an-oriental-twist recipe is from Martha McGinnis of Bedford.

Rabbit Curry

1 tbs. butter
1 large, finely chopped, pared apple
1 cup chopped celery
1/2 cup chopped onion
2 tbs. cornstarch
1 tsp. curry powder
3/4 tsp. salt
3/4 cup rabbit broth
2 cups milk
2-3 cups diced rabbit
1 (3 oz. can) sliced, drained mushrooms

Stew rabbit as you would a chicken. In saucepan, melt the butter and add apples, celery and onion. Cook until onion is tender. Mix cornstarch, curry powder, salt and broth and stir into onion mixture. Add milk and cook until thickens. Stir in rabbit chunks and mushrooms. Serve with rice. Makes 6-8 servings.

This recipe is also from Mrs. McGinnis (they must shoot a lot of rabbits out in Bedford County.)

Rabbit Rice Casserole

1/4 cup butter
1/4 cup flour
1 (14 1/2 oz.) can of evaporated milk
1 cup rabbit broth
1/2 cup water
3 cups cooked rice
3 cups diced rabbit meat
1 (3 oz.) can sliced, drained mushrooms
1/3 cup chopped green pepper
1 1/2 tsp. salt.

Stew rabbit and cut into chunks. In saucepan, melt butter and blend in flour. Add milk, rabbit broth and water. Cook till thick. Add cooked rice, rabbit, mushrooms, green pepper and salt. Pour into greased 2-quart casserole and bake uncovered for 40 minutes at 350°. Sprinkle with paprika for color. Makes 8-10 servings.

Here's an outdoor recipe that was sent in by Scout Leader Joe Tryba of Trenton, NJ. It could be used indoors too (in the oven, of course, since it's not wise to build a fire on the kitchen floor.) We don't get too many quail in Pennsylvania, but I'll bet the same treatment would work well with woodcock.

Quail in the Ashes

8 quail
2 cups cooked wild rice
Salt and pepper
Fresh thyme (optional)
8 thin slices fat salt pork
Rinse and dry quail. Fill cavities with wild rice



VENISON SWISS STEAK is another delight made possible by Pennsylvania's outdoors. Here it is in preparation. Cut steak thick to retain the juices.

and close with small skewers. Sprinkle with salt and pepper. Wrap a slice of fat salt pork around each and place on heavy duty aluminum foil that is large enough to completely enclose 2 or 4 quail, depending on size. Enclose a sprig of thyme in each package. For a complete dinner, add a diced carrot and potato to each foil package. Using the drugstore wrap, close packages. Bury in hot coals or ashes in barbecue pit, fireplace or outdoor campfire. Let roast for 35 minutes and check for doneness. Cook more if needed. Will serve four.

Another New Jersey recipe came from Mrs. Harrop of Franklinville. Don't worry, Pennsylvania pheasants taste just as good as the birds from the Garden State. This is a great way to cook the slightly tougher pheasant legs.

Pheasant Pie

2 pheasants
Water to cover
1 onion
1 stalk celery
1/2 tsp. tarragon vinegar
2 cups diced potatoes
3 diced carrots
2 onions, cut-up
Parsley and thyme
Recipe of pie crust

Cook pheasants with first onion, celery and vinegar until tender. Set this aside and use 2

cups of the broth to cook the potatoes, carrots and onions in. When done, thicken to suit taste and add parsley and thyme for flavor. Put in casserole with pheasant chunks and top with favorite pie crust. Bake at 400° until the crust is brown—about 15 minutes.

I had some fresh mushrooms in the refrigerator when I made this recipe and threw them in too. It was a good blend of flavors.

This version of an old favorite is from Mrs. John Andrews of Youngstown, Ohio. I don't have any scientific reason for it, but Brunswick Stew is always better if made in a cast-iron Dutch oven—or at least I think it is.

Brunswick Stew

2 tbs. vegetable oil
3 squirrels (about 2½ or 3 lb. total)
1 medium onion, chopped
1 cup day-old bread crumbs
2 cups corn (either fresh or 1 package of frozen)
2 cups lima beans (fresh or a package of baby limas)
2 tsp. salt
¼ tsp. pepper
3 cups water

In a heavy pan or Dutch oven, heat the oil. Add cut-up squirrel pieces a few at a time, brown well on all sides. Remove pieces as they brown, add onion to fat left in pan. Cook 1

A YOUNG GOURMET gets ready to sample the Brunswick stew suggested by Mrs. John Andrews, of Youngstown, Ohio. Rountree advises a Dutch oven for its preparation.



minute and return squirrel to pan. Add water, bread crumbs, fresh vegetables, salt and pepper (if using frozen vegetables, add during last 10 to 15 minutes of cooking, according to the directions on the package). Bring the pot to a boil, cover and simmer over low heat about 35 minutes. If the squirrels are old and tough, it may take longer. Serve with biscuits and a salad.

Wild honkers can be tough and chewy, but even if they are, the taste is always great. This treatment will tenderize most old birds if a bit more cooking time is added. A 4-5 lb. bird (dressed) is probably a bird of the year, while a 7 pounder is almost always an adult.

Roast Goose

4-pound goose
Apples, cored and quartered
1 large onion
Butter
½ cup dry red wine

Stuff goose with apples. Butter the bird and put in roasting pan. Cut up onion and put in pan. Pour the wine over the bird and put in 400° oven for 25 minutes. Reduce heat, cover and roast in 350° oven for 2 hours. Thicken pan juices and serve with rice and grape jelly.

Another old standby that has endured the taste of time is the swissing of meat. Be sure to cut the round steak thick enough to retain the juice. At least an inch, and an inch and a half is better.

Venison Swiss Steak

1 thick slice of round steak for each serving
3 tbs. butter
Flour
2 onions, sliced
1 can mushrooms, drained
Salt and pepper
1 small can tomatoes

Melt butter in a heavy skillet while you flour the steak and add salt and pepper. Brown meat on both sides, add onions, mushrooms and tomatoes, cover, reduce heat and simmer for 1½ hours.

The Chinese method of cooking requires extra-thin slices of meat and short cooking time. Don't overcook the meat or the vegetables. Mrs. McGinnis of Bedford suggests serving this recipe over rice but chow mein noodles can also be used.

Chinese Pepper Steak

Partly frozen venison steak
Cooking oil
1⅓ cups of beef bouillon or 1 (10½ oz.) can beef broth

1 medium onion, chopped into bite-size pieces
 1 medium green pepper, bite-size pieces
 1 stalk celery, bite-size pieces
 2 tbs. water
 3 tbs. cornstarch
 2 tbs. soy sauce
 2 tsp. sugar
 Pinch of ginger
 1 (16 oz.) can of La Choy fancy mixed chinese vegetables (drained)

Partly thaw venison steak. Cut meat into thin strips ($\frac{1}{8}$ " slices) and brown in oil. Add bouillon and simmer for 20 minutes. Add the onion, pepper and celery and simmer for 10 minutes. Mix the next five ingredients together and add to the pot and cook until slightly thick. Add vegetables and serve. Makes 6-8 servings.

This is another way of using ground venison. For a different taste, any recipe calling for ground meat will be enhanced by the use of venison. I like to add a pound of shoulder pork per five pounds of venison. Makes the meat juicier. Be sure to trim off all deer tallow before grinding. Mrs. William Cooney, of Manheim, contributed this recipe.

Venison Lasagne

2 lbs. of ground venison
 32 oz. jar of Ragu spaghetti sauce
 1 lb. ricotta cheese (or 1 lb. of cottage cheese)
 $\frac{1}{2}$ lb. mozzarella cheese
 2 beaten eggs
 1 tsp. parsley flakes
 Salt and pepper to taste
 1 lb. lasagne noodles (cooked for five minutes)
 1 cup grated parmesan cheese

Brown venison in large skillet; use some cooking oil if there isn't enough fat in the meat. Add spaghetti sauce and heat to a boil. Cut 12 thin slices of mozzarella for topping and shred the remaining and mix with ricotta, eggs, parsley and salt and pepper. Ladle 1 cup of meat sauce into bottom of each (12 x 18 inch) baking dish. Layer noodles, cheese mixture and meat sauce in each pan, repeat twice. Sprinkle parmesan on the top with mozzarella slices. Bake at 350° for 30 to 40 minutes, until bubbly.

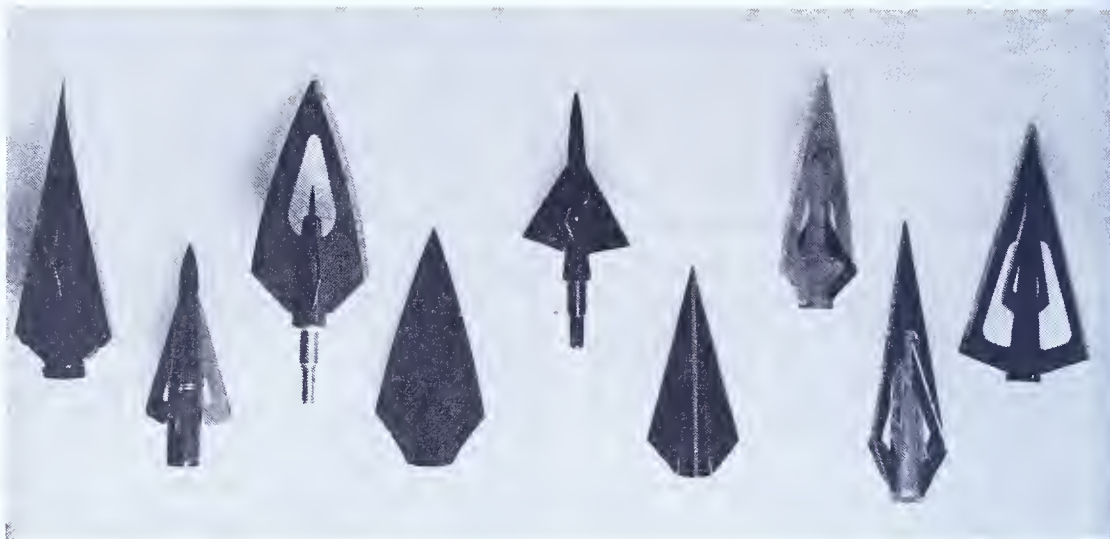


ROUND STEAK, onions, mushrooms, tomatoes—just reading over the ingredients that go into making an outdoor-based meal can make a hunter's mouth water.

One final reminder on handling small game. Last fall was especially warm in Pennsylvania and a number of hunters had trouble with meat spoiling in the game bag. If the air temperature is above 40 degrees, don't carry the game around next to your body. The ideal solution is to carry a small cooler in the car and put the drawn game into it . . . on ice . . . as soon as possible. If this isn't convenient, draw the game and hang it from your belt. I know it's uncomfortable, but the meat will taste better. After all, you work hard for that game and you want it to taste as good as possible. A little extra care makes the table reward that much richer.

Game Commission Thanks Contributors

The Game Commission wishes to thank those individuals and organizations who have generously donated money to the Game Fund. These concerned citizens have certainly done their part for conservation in Pennsylvania. The Commission is permitted to accept donations from any person, association, corporation or firm. Contributions go toward purchasing public hunting lands, which can be used by hunter and non-hunter alike, and for other wildlife management uses.



EACH OF THESE POPULAR hunting heads has qualities appreciated by the archer. However, Schuyler feels that all fall short of the ultimate design.

Some Pointed Views. . . .

Hunting The Ultimate Head

By Keith C. Schuyler

Photos from the Author

IT HAS ALWAYS been my personal opinion that the best broadhead is the one that brings down the game and does it quickly. This is oversimplifying the fact that it is necessary to make a proper hit to score on big game. Almost any broadhead will do the job if there is enough power and accuracy behind it.

However, any serious hunter constantly tries to improve both his own ability and his equipment. Archery tackle has made great strides in the last 20 years. This is particularly true of the bow which delivers the arrow which carries the head. Arrow shafts have also been refined, and even feather fletching has been augmented by addition of the plastic vanes which some prefer for both target and hunting.

Hunting heads also have undergone changes. Some of the offerings are certainly not improvements over the conventional leaf-shaped head which was good enough for Indians over many centuries. Most freak heads die a

natural death. Only newcomers or uninformed bow hunters toy with the oddball offerings.

Although there are a number of excellent heads which have held up well over the years, each lacks some refinement which would make it even better. What should the ultimate broadhead be like?

In my opinion, the head should have good cutting edges, either three or four, but no more. The blade should be factory sharpened. The metal should be treated so that it will resist rust. The blade should be solid, and it should taper no less than 30 degrees, preferably 45 degrees, on the trailing edge. There should be no hint of a barb or any other protuberance which could prevent easy removal of the shaft from its target. Blades should be sufficiently durable to take a reasonable amount of punishment without breaking. They should be removable so that a damaged one can be replaced without replacing

the entire head. Yet, the effort and the knowledge needed to change a blade should be minimal to protect the archer who must make the repair. The head should weigh no more than 150 grains, preferably much less.

Probably more big game has been taken with the Bear broadhead than any other commercial head ever made. The crude Indian heads shaped from flint, obsidian, and other natural materials, of course, killed more game over the centuries. This can be extended to other parts of the world where people today still live by the bow, utilizing materials at hand. European and Asiatic archers had their own metal heads for hundreds of years.

The Bear head became, and continues to be, popular due to heavy promotion, early entry upon the contemporary bowhunting scene, and the fact that it originally was the closest thing to the ultimate head available. This does not mean it is perfect, but it has been good enough to withstand the competition. Fred Bear's personal reputation and exploits with the bow and arrow have also had much to do with acceptance of the head which bears his name.

It is a good head! Most of the deer, bear, feral ram and assorted other creatures, except birds and rabbits, that have fallen to my arrows, were taken with Bear razorheads. But, if you compare the qualities of the Bear head with what this writer believes to be the ultimate head, you will find that it lacks some important characteristics that could make it even better.

It is easy to take an armchair approach to any subject, but the qualities of the ultimate head listed here come from on-the-scene experiences. Let's take these suggestions one at time and see how they hold up.

Good cutting edges. This is one of the weaker qualities noted in most hunting heads. Many come from the

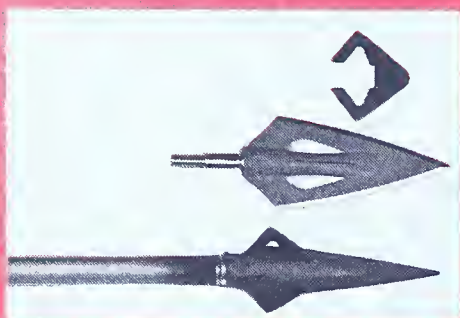
factory with a poor edge, and too few archers are knowledgeable enough to work a good edge on the blades. Some are so constructed that it is nigh impossible to get at the blades to properly sharpen them. Some have metal so soft that a good edge will not hold up under the normal abuse of putting arrows in and out of a shoulder quiver. Some rust easily and must be treated with an anti-moisture agent frequently to hold the painstaking edge worked into them. The answer to all of this is to have rust-resistant blades pre-sharpened at a factory where machinery can do the recommended job that most archers can't. Of course, the metal itself must be sufficiently hard to accept and to hold a good edge.

Three or four, but no more. It is extremely difficult to make a two-bladed head which will fly properly. The least error in manufacture or in placing the head on the shaft will cause planing, the biggest problem with all broadheads. Anyway, the more blades, within reason, the more cutting the broadhead will do. This is its primary and sole function. Obviously, any multi-bladed head will make a much more effective wound, cutting blood vessels that will be missed by a two-bladed head. A $7/8$ -inch blade, with a $7/8$ -inch insert, will do just double the damage of the two-bladed head.

However, there appears to be a limit on the number of blades which will improve the head. For example, there are six-bladed heads. If you draw a line around the effective circumference of a four-bladed head compared to a six-bladed head, you will find that the extra two blades actually add very little cutting area. They also add weight, and it is debatable whether they will penetrate as effectively as, for example, a four-bladed broadhead.

Blades should be solid. It would seem much easier to manufacture a solid blade, and still maintain the weight and exacting dimensions, than blades which have an opening, presumably to cut down weight. Openings invite problems in flight as well as penetration and removal of the shafted head. A blade passing through flesh at





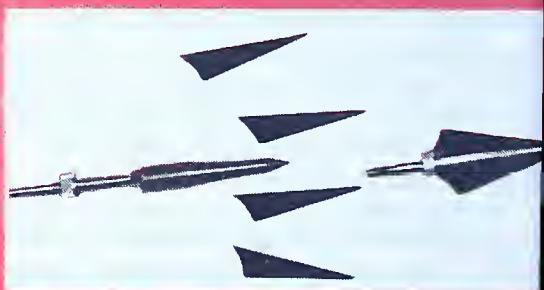
Bear Razorhead—a longtime favorite.



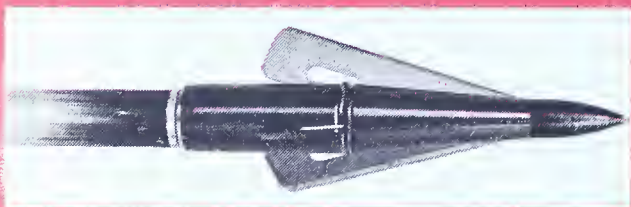
The Super-S—approaching the ultimate.



Missile Spike—component parts and complete head.



The Satellite—has a lot going for it.



The Wasp—a bit tricky to assemble.

Mohawk Magnum—hollow-ground, stainless steel blades.



high speed may not be inhibited by openings until it is reaching its terminal distance in an animal. As it slows down, the openings would probably drag on flesh even though muscle fibers separate as the blades penetrate. The openings definitely retard easy removal. This becomes important in the event of what might normally be a superficial hit. The animal should be able to withdraw the shaft, and it frequently will, if there is nothing to prevent its easy removal.

The blade should taper. For the same reasons cited in the previous paragraph, tapering the trailing edge of the blade at a gentle angle to the shaft helps provide more easy removal by the animal itself. Any protuberance such as a barb or a break in this edge will inhibit ease of withdrawal. In our opinion, this taper should be no less than 30 degrees and preferably 45. This has been a bone of contention for many years with this writer. It is significant that the NFAA Bowhunter Education Program has adopted this as a strong recommendation.

Blades should be durable. Blades must be so set in the head that they cannot accidentally fall out. And they should be of sufficient thickness that they can take a reasonable amount of punishment without snapping. Good hunting heads are expensive, and not every arrow is going to find its game target. Furthermore, the only way to be sure that heads are flying properly is to shoot them affixed to the shaft planned for hunting. The blade should be able to take enough punishment to hold up under reasonable practice.

Blades should be removable. Since nothing is indestructible, blades will be damaged. It should be possible to replace such blades with a minimum of effort. And it should be possible to replace these blades without danger to the owner. Far too many bloody fingers and thumbs result from attempting to insert factory-sharpened blades.

Heads should weigh no more than 150 grains. Most current heads, including adapters, fall well within this maximum limitation. Some of the heavier bows, particularly compounds, could carry a heavier head with no real diffi-

culty. It should be kept in mind, nevertheless, that the heavier the head, the heavier must be the shaft. Keeping broadheads within a modest weight limit permits the use of lighter shafts and the resultant higher speeds. This invites the argument that the heavier the shaft, the greater the penetration. However, we must consider that the average hunter shoots an average weight bow, and he needs a head that is compatible with the shaft that will shoot the maximum efficiency.

Accompanying this presentation are photos of a number of heads which vie for the considerable market provided by some one million bow hunters across the continent. At least a couple of them come very close to the search here for the ultimate head.

Latest to hit the market has been the Satellite. This head has most of the qualities previously listed. A knurled, rounded nut holds the blades in place, but they tend to lie a bit loosely even when full pressure is placed against them. The blades are on the thin side although they are extremely sharp.

The Super-S comes even closer to what we are looking for here. The extremely sharp blade is fairly heavy and sits tightly in the shaft of the head. However, pressure of the shaft itself when screwed forward is all that holds the blades in place. Should the shaft come partly unscrewed from the threaded shaft of the head, not an uncommon occurrence, the blades can fall out of their slots.

The Wasp, which utilizes single-edge razor blades cut to conform to the proper taper, leaves a barb effect next to the shaft of the head. It is tricky to assemble.

The Missile Spike, with its double insert, is extremely popular because of its penetrating properties. We've heard some complaints about the inability of the head to hold together under rough usage. It takes a bit of doing to put one of these together, as they come in four parts.

The Mohawk Magnum head is included because it is an extremely effective projectile on a hit. It is of hard stainless steel which holds an edge well. It is somewhat removed from the

qualifications for the ultimate head presented here, but it is good.

To not include the Bear head would be a serious omission because of the general acceptance of this head by many hunters. It has been improved somewhat over the years, but it is still several steps from what we look for here in the ultimate head.

Because aluminum shafts have become so popular for hunting, introduction of the Fred Bear Converta-point arrangement for screwing the broadhead into an adapter becomes important in a view of hunting heads. They are now adaptable to fiberglass and wood shafts. This makes it possible to practice with a field point of equal weight to the broadhead by a simple turn of a threaded base. This base is either a part of a head or it can be glued to an adapter which accomplishes the same purpose. Adapters do add a bit more weight.

Nevertheless, as many have learned to their sorrow, the field point only simulates the weight. It is necessary to actually shoot the arrow with a particular broadhead affixed to discover

the true response to shaft, fletching and head.

Planing is the biggest problem inherent in all broadheads. Mischievously, some combinations will fly beautifully for so many yards, and then some gremlin diverts the arrow from its course. The problem is frequently not with the head itself. Crooked shafts, insufficient helical in fletching, fletching that is too narrow or too short, failure to perfectly align the head with the shaft—these are areas of difficulty which too often are blamed on the head.

Of course, the ultimate head will not plane! But, it must be given the opportunity to deliver by eliminating any errors in the other important components of a complete big-game hunting arrow.

Any of the heads presented here, as well as a number of others such as the excellent Black Diamond, have produced acceptance and results. Nevertheless, this column takes the position that you *can* argue with success—if there is a better way to be even more successful.

Available Publications

The following publications are available from the Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. Prices quoted include taxes, handling and postage.

GONE FOR THE DAY, by Ned Smith. All of the outstanding columns and artwork which appeared under this title in *GAME NEWS* during a four-year period. Delightful reading for everyone. 216 pp., \$2.50.

THE WHITE-TAILED DEER IN PENNSYLVANIA, by Stanley E. Forbes. Detailed information on all phases of the whitetail's life. 40 pp., 50 cents.

BIRD AND MAMMAL CHARTS, by Ned Smith. Set 1 (20" x 30") \$2.00. Winter birds, marsh and water birds, waterfowl, birds of prey. Set 2 (20" x 30") \$2.00. Mammals of farm and woodlot, mammals of the mountains, birds of the forest, birds of field and garden. Set 3 (11" x 14") \$2.25. All eight charts listed in Set 1 and Set 2. Individual charts not sold in either size.

The Incomparable Rifle Scope

By Don Lewis

Photos by Helen Lewis

I WAS ABOUT 15 years old when one of my older brothers acquired a Mossberg 46A 22 rimfire complete with a 4x Mossberg scope. Believe it or not, back then, scopes were considered more of a detriment than an asset. The Model 46A was fitted with a micrometer peep sight that swung on a hinge, either under the scope or away from the receiver so the scope could be dropped to the line of metallic sights. The advantage of having two sight setups didn't stop my brother from removing the scope in a hurry.

The scope gathered dust for a few months before being installed, more to prove it had no value than to be a shooting aid. I recall doing most of the shooting without any significant results. I had no knowledge how a scope should be mounted and adjusted, and turning the metering wheels 180 degrees at a time only aggravated the situation. After a full box of ammo had been fired without getting the rifle zeroed in, the scope was removed with an "I told you so" attitude. For the next few weeks, I joined the group which condemn the rifle scope. But one thing kept nagging at me—there was no question the scope gave a brighter, clearer image of the target.

Several brands of 22 longs were less than 20 cents a box, and I invested some of my meager allowance to buy ammo for what actually was my first scope test. Taking the rifle to our barn, I mounted the scope and fired at close range at a bullseye on a large piece of cardboard. In the matter of a dozen shots, I learned how to adjust the scope. Before my shells ran out, the rifle was sighted in for 100 feet. The last three shots went into the two-inch bullseye, and that was pretty fair shooting considering I was leaning against the corner of the barn.

I don't recall much more about the



DIFFERENT DESIGN scopes serve different purposes. Here, from left, are Redfield 6-18x, Weaver 2-7x, Lyman 10x, and Weaver 4-12x. Variables are versatile but straight powers have some advantages.

Mossberg outfit except we had it for many years, but I do know the scope stayed on. Even my brother admitted it was an advantage over open sights. Our friends didn't share our optimism and stuck with open sights to prove they had "shooting eyes" similar to Dan'l Boone. It was many years before I got my first scope, but I always knew the optical sight was in a class by itself.

As late as 1947, it was a rarity to see a scoped rifle in the big game woods. Today, opinions have changed, and the

modern hunter has no qualms about using the scope. Trouble is, there are so many makes and models, choosing the right scope is similar to judging a beauty contest—everything looks good. I'm faced with the "best scope" question dozens of times each year. The second most asked question is whether there is one scope that will fill all needs. Without being evasive, there is no cut-and-dried answer. A few facts about scopes may eliminate the misgivings that are buried deep in a lot of hunters' minds.

There's no escaping the truth that some problems existed in scopes built several decades ago. Scopes available immediately after World War II, plus the majority of inexpensive imports, weren't totally reliable. I think I'm safe in saying the majority had internal problems ranging from inaccurate metering to sealing rings that succumbed to shock and quick-changing temperatures. Owners of a variety of imported scopes found warranty a severe problem. I can understand how the insecure feeling that prevailed then still lingers. In fact, I experienced my

share of scope problems prior to the late 1960s.

For the most part, those problems are gone. The modern product is well constructed and backed with a reputable guarantee. Probably fogging was the telescopic sight's most common foe, but new techniques in sealing have made all high-quality scopes virtually immune to leakage. Now, the reticle is permanently centered, and metering adjustments run very close to the manufacturer's specifications. I leave a small particle of doubt about the adjustments because I have found noticeable differences in bullet impact from scopes of the same make and model. It pays to test metering adjustments under actual firing conditions.

In general, a scope consists of a metal tube holding an objective lens unit (front) and, in multiple or single setups, collective and erector lenses, along with a reticle and its adjusting mechanism, and the eyepiece or rear lens unit. Light entering the objective lens passes through the various lenses across the reticle through the rear lens into the eye. Now it's far more complicated than that, but for this article, that should suffice.

An important function of the scope is to gather plenty of light and pass it to the shooter's eye. A mathematical measure of this is referred to as "relative brightness." This is generally misunderstood. It is determined by the size of the shaft of light entering the eye—the scope's exit pupil. It is calculated by dividing the clear diameter of the objective lens, in millimeters, by the power of the scope and squaring the result. Thus a 6x scope having a 30mm objective would have an exit pupil of 5mm and a relative brightness of 25.

Since the size of the front lens and the magnification govern the size of the exit pupil, it seems logical to use the largest objective lens possible. This would automatically produce a larger shaft of light. Usually, what isn't considered is that the shooter's eye is an integral part of the total optical setup, and the human eye's iris is limited in size. It rarely opens to a greater diameter than 5mm. That's why many scopes and binoculars are



JIM CRAVENER finds big Unertl target scope unexcelled for long-range varmint shooting on Savage M112-V 220 Swift. High power scope takes advantage of rifle's excellent accuracy.

designed to give a 5mm exit pupil.

While the varmint hunter might need the larger objective lens for long-range shooting with a high-power scope, the big game hunter doesn't need the mass and bulk offered by the higher power scopes or wide-range variables. It's been my contention for years that the big game hunter would be wise to stick with small, compact scopes that can be mounted low on the rifle—variables in the 1½–4x and 2–7x sizes, or straight power scopes of 2½x, 3x or 4x. This type of scope is not only smaller, but not as heavy as the big variables. This is a plus for older hunters who lean more toward lighter outfits.

Not too many years back, lens coating got extra publicity, and retailers had a tough time selling scopes that didn't reflect a bright blue from the front and rear lens. Actually, the coloring in itself, meant nothing. Lens coating is a complicated process of putting a layer of magnesium fluoride (4–6 millionths of an inch thick) on each air-to-glass surface. Its purpose is to reduce internal light reflections (flares) and also to increase light transmission. Optical experts claim proper lens coating on all air-to-glass surfaces increases light transmission up to 50 percent. This means a sharper, clearer definition of the target.

Parallax still produces some confusing arguments, and it is a built-in alibi for the hunter who misses a standing shot. Far be it from me to reduce the supply of "technical alibis," but I've never tested any scope that had enough parallax to miss even a small deer.

Parallax occurs when the target image falls in front of or behind the reticle and the eye is not placed exactly in line with the optical axis of the scope. When the scope is held in a solid position, the reticle moves in reference to the aiming point when the eye is



DON LEWIS displays two oldtime varmint outfits, a Remington M511 with Winchester Model 5 scope and Savage 342 with unique Boonescope. Neither scope is now made.

moved up and down or from side to side. Hunting scopes are usually set parallax free at 100 or 150 yards. Higher powered scopes and some variables can be focused, usually by moving the front lens, to eliminate parallax at any distance.

The whole parallax bit has been overplayed for too long. Target shooters and long-range varmint hunters need scopes with focusing adjustments, but the big game hunter can put parallax and all its confusion out to pasture. Myths never die easily, and no doubt misses at more than one deer will be blamed on parallax this season.

The animosity against optical sight that existed when I was young has not entirely faded away. One of the fallacies of our finite minds is to cling to unfounded allegations to support personal suspicions. Those who totally believe in open sights, for instance, claim the scope is not dependable, will be knocked out of alignment from the slightest jar and is useless in heavy brush or for close shots. A more damaging misconception is held by those who



view the scope as an optical necessity for aging hunters with weak eyes.

I have no quarrel with the hunter who wants his favorite buckhorn and ivory bead setup, and I personally admire and respect the hunter or shooter who shoots well with any type of open sight arrangement. My plea is for understanding. It's wrong to condemn without first establishing concrete reasons. The hunter who has used a scope long enough to understand it but still wants no part of one should by all means stay with the iron sights. But long experience with both sighting arrangements has proved to me that the optical sight is superior.

I hope the day never comes when all rifles will be stripped of their original iron sights and replaced with the magnifying sight. I have a Winchester Model 71 chambered for the brush-busting 348 cartridge that will never see a scope. And I wouldn't detract from the beauty of an old High Wall ac-

tion by filling it full of screw holes. If were a brush-pounding hunter looking for 50-yard shots, a scope would be unnecessary and only extra weight. When the iron sight was in its heyday, that type of hunting was common. Today, however, the pendulum has swung toward open hunting where shots often reach beyond 150 yards, and the advantages offered by optical sights can be overlooked.

With open sights, three factors are involved: the two sights and the target. The human eye can only focus perfectly on one object at a time, which means it has to flick back and forth among the three objects. The rear aperture sight (which is looked through instead of a) did eliminate one, but still the eye's focus has to jump back and forth between the target and front sight. With the scope, both the target area and the scope's reticle are on the same focal plane, the reticle seems to be part of the target. This makes a properly mounted scope faster and easier to use than other types of sights.

The telescopic sight has a more beneficial aspect than just being a lifesaver for tired and aging eyes. It's a scientifically designed optical instrument. In hunting, its paramount purpose is to help the hunter make a clean, quick kill. It does this by allowing the shooter to zero in perfectly, see more clearly, and thus be far more precise with his aim. So many hunters worry about caliber, cartridge size and sheer power and don't give ten seconds' worth of thought to bullet placement. Cartridges and calibers should be adequate for the game hunted, but putting the bullet in a predetermined area is the prime requisite for the hunter. When shots reach beyond 125 yards, the scope is in a class by itself.

Repeating an earlier statement about so many makes and models poses the question that baffles all new scope buyers, and it's simply which one and what power? Brand name should be left to the individual, and if in doubt, the manufacturer's guarantee will at least indicate the quality of the product. Power falls into a chaotic category; there is no absolute answer for all situations.



SMALL BROWNING 4x scope is the perfect complement to Browning lever action 22 rimfire in the squirrel woods. Outfit is fast working and accurate.

To add waves to already troubled waters stirred by advertising claims concerning fields of view, dual reticles or range-finding features, the hunter is expected to know precisely what type of scope he needs. It's a real dilemma deciding among the fixed powers, low range variables and the ultra power offering variables such as the 4-12x or 6-18x outfits. A young acquaintance settled it in his mind by going for the 4-12x, but that's not the answer. He was attempting to make one scope fill all needs. The best approach is to mate the scope to the cartridge, or better yet, to the conditions hunted under.

It is illogical to install a bulky 3-9x on the 30-30 or 32 Special. Here's where a 1½-4x or even a straight 3x would be more than adequate. On short shots, field of view is important, and at 1½x the scope offers over 60 feet at 100 yards compared to around 30 feet at 4x and only 13 feet at 9x. I favor a large center dot on low powered scopes (at least 3 inches at 100 yards, and preferably more) but the "plex" reticle (4 posts with crosshairs at the intersection) stands out bright and clear even under poor light conditions.

Cartridges classified as combination obs, such as the Remington 6mm, Winchester 243 and the Remington 25-06, blend better with variables like the 4-9x or 2½-8x. The normal line of hunting cartridges in the 270 Winchester and 30-06 category are basically

used for big game hunting but still need some extra scope power. The 2-7x variable is unexcelled on these rifles.

Scope manufacturers may disagree with my thinking, but on super Magnums I feel the fixed power 4x or the compact variable cuts down on bulk and weight. The recoil of the big cartridge can play havoc with large objective lens scopes that require high mounting. The Winchester 338 or Weatherby 378 Magnum should have scopes mounted as low to the action as possible.

These are only suggestions, but avoid just going for power alone. Adding power reduces the field of view and, usually, the eye relief. Cranking a scope to full power does not increase the chances for success. It not only cuts down the size of the target area, but hinders the shooter because everything out to the target is magnified. Under the pressure and excitement of hunting, it can be difficult to locate a distant target when the variable scope is set on full power.

The best advice is to use common sense and lean toward scopes with less power if big game is the target. The next best thing is to get the scope on early and practice catching aim with it until the target is seen the instant the cheek touches the stock. Naturally, scope mounting is an all-important issue, and I intend to deal with it next month.

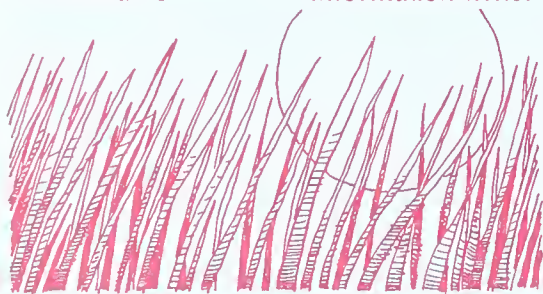
GAME NEWS Cover Prints Available

In answer to numerous requests, we can now supply a selection of GAME NEWS covers in a size and format suitable for framing. A set of four covers, all by internationally-acclaimed wildlife artist Ned Smith, now is available. These are full-color prints, enlarged to 9x12 inches on 11x14 heavy, coated paper, without the GAME NEWS logo. The set includes Ned's woodcock from the April 1974 issue; the woodchuck from July 1974; the doves from September 1972, and the buck and doe from the December 1971 issue. These prints are not available individually. The price is \$3 per set, delivered. Make check or money order payable to Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.

In the wind

toni williams

information writer



The biggest timber sale ever made by the U.S. Forest Service has been cancelled by mutual agreement between the Service and Champion International. The 1968 sale involved more than 8 million board feet of timber from the Tongass National Forest in Alaska, and has been tied up in litigation since 1970. The Sierra Club and others contended that this operation would be highly detrimental to the area, and regeneration would probably be quite slow.

The U.S. Department of Agriculture reports that more intensive use of land already in urban use accounts for most of the advancing urbanization in fast-growing counties. Residential land, for example, is converted to commercial, industrial and transportation uses. A 10-year study of 53 counties showed that only about a third of the land taken by urbanization was cropland.

It's usually pleasant to announce a new arrival—but not when it's an addition to the Endangered Species List. The latest mammal to hit the list is the tiny gray bat. Isolated colonies of the gray bat live in caves in the southeastern and central U.S., northeast to West Virginia. Both animal and habitat have been severely disrupted by human activity. Like other U.S. bats, it feeds on insects, performing the same service at night that many songbirds do during the day. Many other cave creatures depend on the presence of bat colonies and their associated organic material for survival. If bat colonies disappear, these interesting and scientifically valuable communities will soon follow.

Radio telemetry has proven itself a valuable tool in wildlife management. Recently, Georgia researchers, wondering what happens to wild turkeys released in a new area, followed radio-equipped birds. At first, turkeys remained near the release site, but quickly began to move out. They had established new ranges within five weeks. Hens stayed closest, usually within a mile or less. Pennsylvania researchers agree, adding that young birds seem to move the furthest from the release site, up to several miles.

California is having more success with its non-game fund than most other states. Over \$30,000 was collected in the first year of the voluntary program. Only about 15 percent of the donors had a hunting license; 35 percent were fishermen. Most others belonged to one or more wildlife or environmental organizations.

Two of the major utility companies planning a huge coal-burning power plant on southern Utah's Kaiparowits Plateau have withdrawn from the project. The plant would have emitted about 300 tons of atmospheric pollutants daily in an area containing several national parks—including Bryce Canyon and parts of Grand Canyon. The decision evidently was due as much to economic factors as to pressure from environmentalists.

The National Wild Turkey Federation has established its first wild turkey restoration area. The 6000-acre area of mixed hardwoods and pines along the Georgia-South Carolina border includes land controlled by the U.S. Army Corps of Engineers as well as privately-owned land. Within a few years, the model project may yield 15-20 wild turkeys yearly for restoration efforts in Georgia. The Federation aims to foster restoration of the wild turkey into all suitable habitat throughout the U.S.

Scientists at Michigan State University have developed an artificial lagoon system for treating sewage waste water. It keeps waste from polluting natural waterways, and also recycles nutrients and creates potential recreational areas.

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Pennsylvania Seasons and Bag Limits 1976-1977

The Pennsylvania Game Commission, in Harrisburg on June 3, 1976, established the following seasons and bag limits for resident game and furbearers for the 1976-1977 hunting license year which begins September 1.

Open season includes first and last dates listed, Sundays excepted, for game. The opening hour for small game, migratory game birds and other wild birds or animals on October 30 will be 9:00 a.m., D.S.T. Shooting hours for other days and seasons will be from one-half hour before sunrise until sunset except turkey gobblers (spring season) from one-half hour before sunrise until 11:00 a.m., D.S.T., and raccoons which may be hunted any hour except during the firearms deer seasons when the hours are from sunset to sunrise. Seasons and shooting hours for migratory birds will be announced later.

Daily Limit	Field Possession Limit	SMALL GAME	DATES OF OPEN SEASONS	
			First Day	Last Day
6	12	Squirrels, Gray, Black and Fox (combined)	Oct. 16	Nov. 27 AND Dec. 27
2	4	Ruffed Grouse	Oct. 16	Nov. 27 AND Dec. 27
4	8	Rabbits, Cottontail	Oct. 30	Nov. 27 AND Dec. 27
2	4	Ring-necked Pheasants, males only (except in designated area)*	Oct. 30	Nov. 27
		—both sexes in designated area*	Dec. 27	Jan. 15, 1977
4	8	Bobwhite Quail	Oct. 30	Nov. 27
Unlimited		Raccoons (Hunting)#	Nov. 1	Jan. 31, 1977
Unlimited		Woodchucks (groundhogs)	Sep. 1	Nov. 27 AND Jun. 15
1	1	Wild Turkey—Northcentral and Southcentral Areas**	Oct. 30	Nov. 27 (Except Nov. 22)
		—Peripheral Areas	Oct. 30	Nov. 20
1	1	—Spring Gobbler Season (bearded birds only)	Apr. 30	May 21, 1977
2	4	Hares (Snowshoe Rabbits) or Varying Hares	Dec. 31	Jan. 1, 1977 AND Jan. 7
				Jan. 8, 1977
		NON-GAME		
Unlimited		Crows	Jan. 17	Apr. 14, 1977 AND Jul. 2
				Aug. 6, 1977
		BIG GAME		
1	1	Bear, over 1 year old, by individual or by hunting party of two or more	Nov. 22	Nov. 22
		Deer, Archery Season, any deer—Statewide	Oct. 2	Oct. 29 AND Dec. 27
		Deer, Antlered, with 2 or more points to an antler or a spike 3 or more inches long	Nov. 29	Dec. 11
1	1	Deer, Antlered, and Antlerless with required antlerless license, buckshot only in Special Regulations Area listed below***	Nov. 29	Dec. 11
		Deer, Antlerless—Statewide	Dec. 13	Dec. 14
		Bad weather or inadequate harvest extension	Dec. 18	
		—Counties, and parts of, listed below****	Dec. 13	Dec. 18
		Deer, Antlered and Antlerless—with specified muzzleloader on designated State Game Lands*****	Dec. 27	Jan. 15, 1977
		FURBEARERS		
Unlimited		Skunks, Opossums, Raccoons, Foxes, Weasels# (traps)	Nov. 7	Jan. 31, 1977
Unlimited		Minks#	Nov. 25	Jan. 2, 1977
Unlimited		Muskrats (traps only)	Nov. 25	Jan. 2, 1977
3	3	Beavers (traps only)	Feb. 12	Mar. 12, 1977

NO OPEN SEASON—Cub Bears, Elk, Otters, Hungarian Partridges, Sharp-tailed Grouse, Bobcat or Wildcat.
NO CLOSE SEASON—Chukar Partridges, Red Squirrels.

For special regulations concerning deer, pheasants, turkeys and beaver, consult the 1976-77 Hunting and Trapping Digest.

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COVER PAINTING BY RON JENKINS

Our state bird, the ruffed grouse, is considered by his devotees to be the noblest quarry on wings. Most would agree that hunting him's a challenge. Dense conifers provide good cover—and tough shooting. Autumn's well-stocked cupboard makes food no problem at this time: grapes, berries, acorns, beechnuts, sumac, . . . lots to fatten up on. Later, he may be reduced to plucking buds off bare winter twigs. This painting is copyrighted by the National Wildlife Art Exchange and is used with permission. Prints are available from them at Drawer 3385, Vero Beach, FL 32960.

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Let's Take Our Game Home

AN HOUR AFTER ANTERLESS SEASON opened last year, I killed a yearling doe on a Game Lands in central Pennsylvania. After tagging it and getting it to the Jeep, I shoved my 284 Mauser in the rack, dug out my old Leica and headed back into the woods, hoping to get some action photos of hunters. I hadn't gone 200 yards up a wooded ravine when I saw something white shining against the leaves. It was the belly hair of a large doe. She had been shot only a short time before. The bullet was well placed. It had entered the front of the shoulder and angled back through the lungs, remaining in the animal. Only in extremely rare cases will a deer hit like that go more than a hundred yards or so. Yet this one had not been found. Why?

The answer is simple. The hunter didn't look. Too many hunters expect a deer to go down in its tracks if hit. If it doesn't, they assume they missed. But many times a fatally wounded deer will give no sign it was hit, run off, and then die within a short distance. After every apparent miss, the hunter should reconstruct a mental image of his sights in reference to the target at the moment of firing and of the gait of the animal as it disappeared. If the sights looked right, or if there was something unusual about the animal's movements, chances are his shot connected. A lung- or heart-shot deer usually collapses in a few seconds at most, but in that time it can get out of sight in average cover. Anyone who assumes his shot was a miss can well lose a fine game animal. So don't make such an assumption. Following every shot, even if you don't think it was a hit, go to the place where the animal was when you fired, search for blood, hair or anything else that might indicate a hit, examine any tracks—in leaves as well as snow; you don't have to be Natty Bumpo to tell if something is amiss—and even if there's not the slightest indication of a hit, follow the deer's general direction of travel for a hundred yards or so. You could well find it dead. Such actions should be routine, an effort that is made is automatically as firing the shot was. But apparently this is something that not all hunters have learned.

It's not only big game hunters who have this problem either. Small game hunters, particularly pheasant hunters, lose more downed game than they should. Most of the smaller species—doves, quail, rabbits, even grouse—are not overly tanacious of life. Usually (though admittedly not always) they are somewhere close to the spot they hit the ground. The toughest part about picking these up is finding them. A good dog is invaluable here. Anyone who doesn't have a dog should form the habit of hunting determinedly until he finds his quarry. Marking dropped game well is important; it keeps you hunting where it is instead of unknowingly edging away. The ringneck is a real problem for the retrieverless hunter. This is a big tough bird, not overly hard to connect with but awfully hard to kill in the air. He often hits the ground running and far too often is never found. The best suggestion I have on this critter is—as long as he's in the air, keep shooting.

So how about you and I making a pact. Let's make every possible effort to take home every piece of game we kill this year. Even if we fail in an absolute sense, we'll still be making progress. Are you with me?—*Bob Bell.*



Gary Hixson

THE LAST WORD

By Mike Anderson

THE FURRY beast moved steadily toward me. I could hear his heavy breathing, broken by short grunts. A swarm of flies buzzed angrily around his head and I was more than impressed by the animal's large frame. I flattened myself against the trunk of my tree stand and hoped he wouldn't see or wind me. It was a late August afternoon. Bears were not in season and I didn't have my trusty 30-30 Marlin with me. How I wished I could have brought it along.

A movement caught my eye to the right. Another bear! Moving out of the swamp to keep company with his comrade, the second bear flipped over a huge flat rock like a hot pancake, looking for grubs. His easy strength threw fear into me. With the larger of the two circling my tree, the smaller bruin left his rock flipping and climbed a nearby tree about nine feet. Now he was opposite me and about 25 yards away. He sniffed the air and threw his head from side to side.

My gosh, I thought, if he sees me I don't know what I'll do!

I tried to believe I'd disappear right into the trunk that I was pressed so tightly against. My heart beat rapidly and I could feel my body temperature mount. This wasn't just a case of buck fever—this was honest-to-goodness bear fright! The larger bear kept circling my tree and I just held on, not knowing what to do.

This whole adventure began for me, I guess, when I began hunting with Dad and my older brother, Pat. Now 15 and a high school sophomore, I was pretty used to the woods. You might say I had been broken in. I haven't scored on a buck or turkey yet, but I've had my share of thrills just the same on the near misses. Of course, I always seemed to wind up getting the raspber-

ries from the other two hunters in my family.

I wasn't allowed to miss those long-winded stories Dad loved to tell about the hunting abilities of the Clearfield area Andersons: Grandpa George Anderson, Uncle Charlie, and older brothers Luke, Blair, and George, Jr. That crew hunted with mules and out of tents at the old Anderson Camp about the turn of the century, then moved indoors to Bear Run and Greenwood Lodge when the Anderson Camp burned to the ground.

And, of course, I had heard of another relative, Curwensville barber Sam Norris, who had a few years back shot one of the largest blackies ever taken in Clearfield County. They say it weighed close to 600 pounds.

Clan Stories

Honestly, the Anderson clan stories either whetted my appetite for better hunting or made me feel that to even try to outhunt those old-timers was nothing but a waste of time. I couldn't decide which. But then again, maybe it would be worth the try. Pat, 19, kept reminding me of the buck he had downed during the previous archery season, and I had to try to outhunt him this year if nothing else!

I enjoy a lot of school sports, especially baseball and wrestling, but hunting—that's in a class by itself. Hardly anything else offers as much to a young kid as hunting in Pennsylvania. I just can't wait to get into the woods each fall.

And so it was that I was out pre-season scouting. It was a beautifully clear day in the Poconos. At 2 o'clock there wasn't a cloud in the sky and the wind was still. I sneaked along through the woods, lighthearted, hoping I'd see something. Dad was busy fixing up our

summer home and Mom was probably in the kitchen cooking up something special. As for me, I was a kid lost in a world all of my own. Worry? No, not me; I could take care of myself. Hunting teaches you that.

Two ridges in, I mounted a rise and sent four deer scurrying when I startled them with my presence. They bounded away gracefully. As I climbed over the third ridge, two more deer scattered. Now I was about 200 yards from my hunting perch and I had to cross a small stream. Just about then I noticed another deer in the nearby swamp. I traveled quietly but swiftly to my stand, hoping to observe the deer from there.

And observe I did. Within half an hour, at least a dozen deer walked within 40 yards of me. I sat silently and took everything in: the beauty of the woods, the warmth of the day, and the play of the deer feeding within short range. I'd thought of doing some work on the tree stand, but everything was so peaceful that I supposed it would make better sense if I just climbed

down and left the woods undisturbed.

But as I got to the base of the tree, I heard a noise like a log getting ripped apart. I figured it was a bear, so I stopped and looked around. It wasn't long before I saw them. Two medium-size black bears came out of the swamp about 50 yards away and headed in my direction. They didn't seem to notice me, but came steadily on, right toward me. I scurried back onto my perch.

As they got closer, I looked them over real good. The one was noticeably smaller than the other, about a 200 pounder. The larger one was close to 300 pounds, I'd guess. Their grunting sounded scary. I guess they do that naturally, but at the time I wasn't thinking that clearly and I thought maybe they were angry. Anyway, I was just plain scared.

I became a little more concerned with their presence and the fact that I was treed without a weapon. I didn't know what they wanted, and I just hoped it wasn't me. I was a little relieved, however, when the tree climber skidded and clawed his way down the maple. He acted as though he hadn't scented or seen me.

Good, I thought. That took some of the pressure off.

By now the larger bear had left off grub-hunting and moseyed off. However, the smaller bruin came over to inspect my tree. He moved casually, but that didn't help matters; my fear began to mount again. I thought that if I yelled or made a loud noise the bear would probably take off for distant parts. But what would happen if he decided to climb my tree? The bear came closer and closer until he was scarcely five feet from my platform. I could smell his sweaty body and see the glisten of his fur. And just about then I was about to have a heart attack, I was so frightened. I could see the white blaze on his chest, shaped just so, and I could hear the flies buzzing round his head. He continued to make those grunting sounds. I had curled myself in a little ball against the tree and didn't move a fraction of an inch.

A fleeting thought struck me: Was I being put through the groundings of the Anderson hunting tradition? If so, I



OUR FURRY FRIEND disappeared again and I made a long distance dash back to the cabin. Boy, those tracksters from Villanova U. had nothing on me!

was sure I would rather skip this lesson!

Finally, after several minutes of heart-pounding silence, the bear walked right past my stand and went on his way. I heaved a heavy sigh of relief and began to get hold of myself. Now to get out of these woods without running into those two brawny fellows! I dropped to the ground, heard something, and looked around quickly. There they were again, less than 100 yards away and headed for me! I climbed fast and secured myself in my hiding place.

And where do you think Mr. Bruin decided to take a little nap? You guessed it, 20 yards from my tree. He bedded down and I figured I was trapped for a long stretch. But he fooled me. After a few minutes he roused himself, nosed around my general vicinity with his traveling buddy, and then wandered off. After what seemed an eternity, I couldn't see either of the two bears so I eased myself to the ground. But my freedom lasted only a few seconds. Back one of the bears came. Up the tree I went in a hurry. If I weren't so scared I'd have thought the whole situation funny!

Long Distance Dash

While this was going on, several deer kept browsing around, staying a safe distance from the bear. Finally our furry friend disappeared again and I thought I'd try to get down. There being no sign of him, I made a long distance dash back to our cabin. Boy, those tracksters from Villanova U. had nothing on me!

I arrived home at 5 o'clock. Those bears had me up that tree for 2½ hours. My parents said I was as white as a ghost when I told them what had happened. I've always heard that black bears are not dangerous, and that's probably correct, but I couldn't convince myself when I was out there in the woods with a pair of them.

That was three months before Pennsylvania's one-day bear season in November. Now I hoped to see Mr. Bruin on more or less equal terms, if I saw him at all. The day before the season, some friends saw fresh tracks in the snow in the direction away from my



THE BEAR CAME crashing through the underbrush. I put the crosshairs on his chest and squeezed the trigger. He stumbled, regained his footing . . .

tree stand. All during archery deer season, I remembered, I hadn't seen a bear near my stand, so I decided to hunt where the most recent sign was.

Dad and I laid careful plans. We checked our equipment again and again. I examined each shell, oiled and tried the lever action, even oiled the stock. I inspected my insulated boots for any rips or tears. Snow was predicted for the Monroe County area, with an overnight drop in temperature, and I didn't relish getting wet and cold. I checked the numerous items that go into hunting pockets and made sure I had a supply of the things that make a long day's hunt comfortable. Everything had to be ready. This was the big day I had waited so impatiently for.

I went to bed late that night and set my alarm for 5:30. That would give us plenty of time for a good hot breakfast and to get out to my stand before dawn. I was so excited I didn't get much sleep that night. And then what do you think happened? The alarm rang and although sleepy-eyed I quickly discovered that our antique of a clock was an hour slow, and it was already getting light. There was no time to spare!

Give

GAME NEWS

To a Friend . . .



PAT AND DAD don't razz me so much anymore. The bear head hanging on the wall of our hunting cabin says it all for me. It sort of gives me the last word.

Dad and I wolfed down a quick breakfast and headed for one of the many ridges that surround our mountain home. A stiff wind was blowing off the lake, and there had been a light snow. The temperature was about freezing. Then just as suddenly the wind died down. Our footfalls crunched in the white stuff. I knew we were making too much noise now.

We arrived at the day-old bear tracks about 7 o'clock. It was completely light.

"Damn it," I exploded. "Why in the world did that old clock go on the fritz this one day of the year! We probably won't see anything."

Nevertheless, I had scouted this area pretty steadily and I knew there was plenty of game about. The power company had just cut a 50-yard-wide powerline on top of the ridge and we headed for it. The climb was a sweaty, foot-slipping job. We had to get to the powerline before it became too late for early morning game to move. That cleared area would give a long, clear shot if we happened to see anything.

We arrived at one of my favorite spots and found another hunter already settled in. We walked laterally over the

next ridge and saw another hunter posted there. Damn—they must have had the same idea I had! So, over the next ridge we sneaked, out of sight of both hunters, and chose ideal positions a short distance apart. I was at the bottom of a ridge, between three sizable rocks. I could see clearly about 500 yards and had a nice steady rifle rest if I needed it for a long shot. Anything that cut across that powerline was completely in the open.

It was now 7:45, and I heard some deer snort. I watched them cross the powerline about 250 yards away. I hunched over, scrooched down snugly in my Woolrich outfit, adjusted the plastic heat seat comfortably beneath me, and wiggled my fingers inside my heavy mittens to keep up the circulation. It was going to be a long wait, and I was ready for it, so I thought.

Three Fast Shots

Then three rapid shots rang out, about a half-mile away, in the direction opposite from the other two hunters Dad and I had seen. Instantly I was alert. I figured I had a good chance of seeing something from my well-chosen stand. The snow had melted somewhat with the rising sun's heat, and the leaves blew around noisily again. Surely I'd hear anything coming now. And then it happened. At 8:05 I heard something off to my right in the brush. I immediately spotted a medium-size black bear peering through some overturned trees about 50 yards away. I didn't have a good, clear shot, even though he was standing on his hind legs, so I decided to wait and see if he'd come out in the open. He dropped down and stayed out of sight for about two minutes. I took the time to raise my 30-30 to my shoulder, just in case things started to pop. Quietly I slipped my right hand out of its mitten and touched my thumb to the cocking spur.

Suddenly the bear came crashing through the underbrush like an angry locomotive. I put the crosshairs on his chest and squeezed the trigger. The bruin stumbled, regained his footing, and kept right on plowing through. I quickly fired a second shot. Nothing happened. By now the bear was 75

yards away, making tracks like mad. He was in the woods to my left, rushing like a runaway bulldozer going downhill. I led him a slight bit, put the crosshairs on his shoulder, and squeezed another shot off. To my amazement, he crumpled in his tracks!

Dad had hurried over to me during the shooting. Together, we ran over and cautiously inspected my trophy. One shot, probably the first, had hit him in the body and the second had missed clean. The third shot had hit the neck, dropping him where he lay. The bullet had tumbled when it hit, lodging backwards in a tree just behind the fallen bear. I reached over and finger-nailed it out of the bark.

Dad couldn't believe that I actually had got a bear. I think he was more excited than I was. We quickly field-dressed the bear and looked for a suitable fallen sapling to help carry our prize off the mountain. One of the nearby hunters came over, smiled broadly and shook his head when he took in my age. He promptly offered to help carry the bear out.

It was then I happened to think that many hunters are just like him, generous in admiration and always willing

to offer a hand. It just seems to be that way with Pennsylvania hunters. But we refused his offer, not wanting him to lose his own hunting time, and proceeded with the shoulder-aching chore. Slipping and sliding, swaying and stumbling, we inched the heavy weight down the snow-covered hollow. The bear-checking station was our next destination.

When Dad and I examined the bear, I couldn't help but notice the similarity between it and one of the bears that had treed me earlier in the year. I felt certain this was the same bear. He had a large head for that size bear, a big-framed body but not a heavy one, and the white blaze measured the same as I remembered. And he had exactly the same amount of brown on his muzzle. The only things missing were the sweaty smell and the army of flies that had previously bothered him.

Pat and Dad don't throw so many raspberries my way any longer. And as far as that Anderson hunting tradition stuff goes, I'm not uttering a word. I don't have to. The bear head hanging on the living room wall of our hunting cabin says it all for me. It sort of gives me the last word.

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My Thanksgiving Saga

By Thad Bukowski

PERHAPS THERE are many waiting to celebrate a special turkey day this year, but in truth I have already spent more than one memorable occasion in the Pennsylvania forests in much the same manner as the Pilgrims did so long ago. Not every Pennsylvanian has availed himself of the opportunity, but it is possible to go after a wild turkey much as William Penn or Ben Franklin might have done. But how unique the circumstances in the Commonwealth which permit us to do much the same now as our forebears did 200 years ago!

An occasion such as this can be quite memorable if one allows the forest to overwhelm him, so permit me to recount at least one grand occasion there. It ended on the knoll of a big hill, strewn with cutover timber above a valley in Forest County through which my hunting friends said Queen's Creek flowed. I was their guest.

I had just clambered to the top of the hillside, after stopping a number of times, puffing, before I got to the brow. At every stop I took the opportunity to focus on the forest and valley below. Bit by bit, as I climbed higher, I saw more.

The waning sunlight was still sending shafts through the dense tangles of hemlocks along the stream bottom in the western edges of the valley. Not too many hours before, my two hunting friends dropped on all fours, sank their faces in the water and drank to their heart's content while I stood taken aback a bit, almost unbelieving that forest water could still be pure.

The valley reminded me of a bit of Idaho bear and cutthroat country I had seen a few years before. Indeed, earlier in the day one of my companions delightedly showed me a couple of native trout in a small pool.

I studied the bits of the stream which showed from my hilltop vantage point, then looked farther on also, to the point of beeches in which we had posted



AS WE ROUNDED a bend we saw a sight that neither of us would forget—the “old man” carrying a turkey over one shoulder and his shotgun in the other hand.

prior to dawn for sight of a wild tom.

I was in a mass of blowdowns, most of them aged white pines of which there was still a sampling in the woods. These were den trees mostly, spared from the woodsman's tools when he had clear-cut the range at the turn of the century. They had ragged trunks and were left for the denizens of the wild. I idly wondered whether a fox, possum, porcupine or raccoon might be hidden somewhere down there among the root hollows and gaps.

I had shivered in that morning dawn as the chill penetrated, even though

the memorable day began with sunlight sending probes into the cathedral of trees all around me.

Tons of golden leaves lay almost a foot deep on that forested hillside and not one stirred as I sat hunched there that morning. The stillness was broken only occasionally by the clucks of my nearby partner. Time and again I ran my gaze in a broad semicircle which covered almost a half-mile, but only the softest branches of the hemlocks moved and then only slightly.

All around were turkey scratchings, indentations in the leaf piles, nestlike, with scrawlmarks in them, as the toms and their harems searched for beech-nuts, acorns and grubs. But the birds were not here this day.

Gorgeous Morning

A deer moved off in the distance but I saw hardly anything except its big flag as it bounded away as quickly as it had appeared. The chill kept creeping in and when I could stand the early morning post no longer, I climbed over the knoll and found my two friends. None of us had seen turkey, one had been confronted by six whitetails, and we all agreed that the morning was absolutely gorgeous.

We headed into a big slashing, topplings of wild cherry and oak strewn everywhere. Even among their death, life was again cropping up. Wild blackberry scratched at us everywhere, bunchgrass was frosted, and fern fronds rattled in their dustiness. We followed the stream nearly two miles before I begged off from my two younger companions. They said they would check further for fresh sign, and I told them I'd await their return at a grove farther along the hollow. While they climbed yet another ridge, I circled a picturesque beaver dam at the base of the valley and headed for some cover.

I sat again for a while surrounded by four hemlocks which faced onto a draw down which game had a tendency to travel, I knew, as I saw evident deer paths weaving up the hillside.

Two hunters appeared in the distance, circled to my left as they ambled easily in their hunt. They did not see me and they had hardly disappeared

from sight when a big doe bounded into the area which they vacated. She watched with head cocked, big ears flicking, as their steps became indistinct in the distance. She remained in my sight until sure they were gone, then pranced off contentedly.

My friends finally came and we continued our hunt. They decided to go back to the area of the early morning scratchings, while I insisted my weary legs were to take me toward a thermos of hot coffee and a rest along the hill where the car was parked. I set my course by the sun, as I had forgotten my compass, and missed the car by one hill.

I ate a sandwich with my coffee as I surveyed the valley and hills stretching away from me in sunfilled beauty. Gray beech vied with painted oak and maple on the far hillside. I vowed to be back here to hunt turkey again, perhaps before every Thanksgiving.

I had hardly completed my snack and mesmerized musings when the fourth member of our aggregation excitedly came upon me with a heart-rending story. His son had suggested he carry a rifle that morning as he headed for the hemlocks opposite our own course. A big tom gobbler flew out of a tree right in front of him and he couldn't find the bird in his scope.

"Furthermore," he blurted, "that turkey practically wiped his beard on my face!"

Million-to-One

I consoled him with an ingratiating smile and blandly suggested he go back and get the scattergun he also carried in his car. "That million-in-one-chance might come again," I grinned. While he swapped guns, I scurried for the other two to bring them back to where the gobbler had been seen.

We soon were sneaking along in the area into which the gobbler had flown. We had just gotten to the bottom of a ravine when we heard a shotgun boom in the distance.

"That could be my dad," my friend called excitedly. We hurried toward the sound. As we rounded a bend along the small stream, we saw a sight that neither of us would forget for many

years to come.

There he was, the "old-man" carrying a turkey over one shoulder and his shotgun in the other hand. It wasn't the gobbler but an 11-pound hen which had also scrambled out of the hemlocks in flight.

I paced off 50 steps from where the bird had fallen and still had nearly 20 to go to where he was standing when we reconstructed the scene.

"The Red Gods were with me," he said. "That bird was awful far for a No. 6 high brass."

Perhaps the Red Gods had aimed me to this valley, too, to partake in a modern-day Thanksgiving saga. I still had the legs to roam the woods as the

Pilgrims did, there were still turkey to find, and I was able to travel a forest which, even in this day and age, at times still seemed primeval.

Furthermore, I possessed the eyes and mind to appreciate this scene and the stream and its little native trout, the beaver dam, countless scolding chickadees and nuthatches, the ground squirrels and the many deer. And I had observed a hunting friend bag a wild turkey much as the Pilgrims had done for their first big feast.

A man hardly needs more in a year such as this. When Thanksgiving Day arrives, I'll give special thanks to God for being able to participate each year in a hunt such as this.

SPORT Against Slobs

A NEW PROGRAM aimed at eliminating "slob" hunters and policing the ranks of Pennsylvania hunters has been launched by the Game Commission. Called SPORT, the program is designed to weed out undesirable hunters who are bringing disrespect to the hunting fraternity. Slob hunters and poachers, defilers of landscapes, enemies of landowners, wanton killers, arrogant boors who make their own rules, gunners who alarm the common citizen and offend public decency, etc.

For years the sportsman has had to put up with the anti-hunting moralist who, knowing little or nothing about game and hunting, feels morally qualified to condemn the person who does. But when the hunter over-reacts to this anti-hunting moralist, it may be because the hunter knows that the moralist is partly right. The ethical hunter feels anger and frustration at being forced to share the stigma of the slob. As the sport of hunting is dirtied by just a few persons, so is the sportsman, for all hunters are tarred with the same brush.

However, it is possible to use social pressure to build strong taboos against slob hunting if they make sense and appeal to the hunter's individual pride and sentiment. This program has that objective.

SPORT stands for "Sportsmen Policing Our Ranks Together." The Game Commission is hopeful that through the cooperation of sportsmen and pressure from within the hunting ranks will come a drive that will eliminate the slob from Pennsylvania before his disrespectful conduct can further damage the image of the hunter.

Chances for success for SPORT are considered good if hunters are a part of the following:

- Support conservation law enforcement;
 - Present a good image by personal conduct;
 - Offenders must be approached and warned;
 - Report the game law violator;
 - Together hunters can preserve their hunting heritage.
-



GROUSE CAME OUT OF THAT CUTTING with exciting and satisfying regularity. The shooting was good until the new growth got too big. For awhile it was an ideal place for grouse.

Memories of Grouse Valley

By Frank Ogrin

IN THE EARLY years we used to go to the upper end of the farm, next to where the new slashing was on the neighboring farm, and start our grouse hunting from there. With the trees gone from that hillside, a whole new view had opened up from there. I liked to go because from that angle the farm looked lush and even prosperous and not what it was to me at the time.

There were some grouse in that recent cutting and they came out of that thickening undergrowth with an exciting and satisfying regularity. The shooting was good for a couple of years and then it tapered off markedly, probably because the new growth was getting too big.

But for a while it was an ideal place for grouse, even if only to learn that, regardless of conditions, you were still

hard put to get your limit. In that place on the hillside, grouse broke from cover in two's and three's, rising up clean and clear from the underbrush, making you think you had a good open crack at them. Except that they came rocketing fast in two or three different directions, and you found they were just as hard to hit there as in the woods. But the excitement of the miss was good there too, and doubtless better because it took place more often.

You rarely hear anyone brag what a great grouse shot he is, nor for that matter is it common for anyone to admonish himself for being poor at it. Unlike the Southern quail hunter or the pheasant shooter, the grouse shooter really has no way to become good or bad at it. Grouse offer you only a medium ground of aptness and however



WE RESUMED OUR nonchalant tour through the woods, with Ernie edging closer toward me until we walked side by side. Presently we halted. "Well," he drawled, "ain't you gonna pick it up?"

good a shot you are at upland game, or however bad, is not readily discernible. All too often the gunner must depend on the element of luck to score.

On the day I'm thinking of, the hunting was uneventful. But it was a fine day, partly cloudy, with the air warm and cool in turn as clouds passed in front of the sun. It was one of those beautiful autumn days when it did not matter significantly that the hunting was low key, and there was no guarantee that it would get better. It was simply a day when you could not think of anything better to do than what you were doing, even if nothing flushed before your gun.

We had already gone through the slashing and it must have been an off day for it because we didn't kick out a thing. After that we crossed the fence into our woods, walking warily through

the second growth. Grouse had a habit of jumping up here just when your field of fire was restricted by a particularly dense regrowth of black cherry or maple. By the time you got your gun barrel clear of the branches the grouse was already nearing the limits of your effective range and the shot you finally loosed at him was usually more beneficial to the ammo makers than to your larder. We both missed a bum offering here but Ernie was a bit more egotistical about his shooting and we spent a while looking for it in the new-fallen maple leaves.

We meandered along through the sun-dappled woods, each of us preoccupied with our musings but prepared for anything except the grouse we were hunting. You are rarely ever prepared for grouse. You may have your mind on grouse, and even know you will run into grouse, but when Mister Grouse shows you will be taken completely unaware. Each time.

So it was that it happened again to us, or at least to me, since Ernie was off to the side and not eligible for the try. There was that place where the terrain ahead of us seemed even more devoid of life, furred or feathered, than otherwise. But out of this improbability, startling us visibly, erupted a grouse.

A grouse comes out of cover much the same way a ringneck or other upland game does, exploding or erupting as it were out into the open, but there the similarity ends. The ringneck comes out of the grass, wings fanning, in a spectacular upward climb, putting on a show to be remembered. After the initial shock of the break from cover, the gunner is treated to an iridescent display of feathery garb, glinting and shimmering in the sunlight. There is that fierce red-rimmed eye fixed on him and that yellow beak giving out that strange metallic cackle as the bird rises toward the apogee of his flight. After which he planes away in swift, gun-deceiving flight to safety. That is, if the experienced hunter hasn't shot him out of the air while he was still climbing.

With the grouse it is another matter. He is no display bird like the pheasant, although in his way he is impressive

enough and very nicely put together. When the grouse comes rocketing out of cover, he is rising toward an apogee similar to the ringneck's, except that his is some 40 yards or so away. The gunner, in the same amount of time, finds himself shooting at a distant and rapidly diminishing target.

Incapable of Action

When that grouse makes his break, there is that moment immediately following when the mind and body reflexes seem incapable of action, when even instinct seems unable to function. Somehow or other the fowling piece comes up, possibly of its own accord, and fractions of a moment later instinct and then the mind takes over, and the shoot is on. Afoot, the grouse is something of a fool bird, and on the roadways often appears intent on getting himself run over by the unconscientious motorist. But in flight his instinct to escape is superb. Even as the gun is coming up, he is well on his way, putting distance between himself and the hunter, with possibly the foiling bulwarks of a tree or two in between as well.

I shot at that grouse as I have shot at all grouse, hurriedly and haphazardly,

and with absolutely no feeling of doing the thing well, if indeed there is such a possibility. I blasted a pattern of shot into the airspace between two stout maples, and in the confusion of gun blast, recoil, and general turmoil, the grouse vanished. Ah, well, it was a great miss, not in the least unexpected nor even regretted, strangely enough. If you have the talent of being able to lose well, then a good miss is not without its compensation.

We resumed our nonchalant tour through the woods, with Ernie edging closer toward me for one reason or another, until we walked side by side. Presently we came to a halt—or at least he did, and I followed suit because he was standing there eyeing me expectantly.

"Well," he drawled. "Ain't you gonna pick it up?"

My gaze followed his and came to rest on the grouse lying on the fresh, leafy carpet of the forest floor. My lucky snapshot had brought him down.

Naturally, I hadn't the faintest clue that I had bagged the bird, but I was quite equal to the occasion.

"Ah, there he is," said I.

If there is anything as vexing as an utter miss, it is to be ignorant of a hit.

Books in Brief . . .

(Order from publisher, not from Game Commission)

Easy Game Cooking, by Joan Cone, EPM Publications, 1003 Turkey Run Road, McLean, Va. 22101, 140 pp., paperback, \$1.75. Mrs. Cone is a hunter, wife of a hunter, NRA life member, hunter safety instructor, and a cook who thinks game should taste like game. Her book's cover blurb says "124 savory, home-tested, money-saving recipes and menus for game birds and animals," and that's what's inside—spiced with occasional comments from a gal who is a hunter, wife . . . etc. Male hunters whose wives won't cook game ought to present them with a copy of this book and an "or else" ultimatum!

Pistolsmithing, by George C. Nonte, Jr., Stackpole Books, Cameron & Kelker Streets, Harrisburg, Pa. 17105, 560 pp., \$14.95. Quite a few books on gunsmithing are available, but most contain little or nothing on repairing or remodeling handguns. These are the sole subjects of Nonte's latest volume, and with an estimated 25 million pistols and revolvers floating around this country, his book should serve a significant need. It covers things as simple as gun cleaning and as sophisticated as tuning the double action revolver and fabricating replacement parts.

The Lone Deer Hunter

By Ned Smith

SINCE WORLD War II, gang hunting for deer has steadily declined in popularity throughout much of our whitetail range. Where parties of 20 or 30 drivers once combed entire mountains in a single sweep, solitary hunters now move slowly through the woods or watch runways and crossing in hope of beating the whitetail at his own game.

There is good reason for the trend. No one in the woods is more gloriously free than the person who hunts alone. No other hunting method puts the man with the gun in closer touch with his quarry, nor provides more personal satisfaction when a kill is made. It's true that the absence of companions to lend a hand can make the solo hunt an inconvenient, difficult, or even hazardous undertaking for the reckless or the inexperienced. But with the right equipment and some advance planning it can prove to be a safe and tremendously enjoyable hunting adventure.

If you're on the flabby side of 30 a physical examination is a sensible prelude to the hunting season; the results should be considered when planning your solo hunt. Keep in mind that you'll not only have to get yourself out of that remote hunting spot, but you might also have to lug a deer out, too.

Another prudent move is to be sure someone knows where you are going to hunt. Should you become lost or injured, or in the event of an emergency back home, precious time can be saved by knowing where to look for you. Be sure someone knows the make, model, color and license number of your car.

Be sure *you* know where you are going. Study a map of the area if it's new to you, or at least learn the general lay of streams, ridges, trails, roads and other salient features by which you might orient yourself. Few things can ruin a day in the outdoors like a recurring doubt as to whether you can find your way out when it's time to quit. Too often you give in to that haunting fear and start working your way out of the

woods in mid-afternoon, missing what is frequently the best part of the day.

Every few years I meet up with hunters who are lost. A compass would immediately set them on the proper course, but they never seem to have one. And why should they? They're always quick to tell me they've "been hunting in here for 20 years," or something like that.

A waterproof supply of matches is a comforting thing to have on you. Let's hope you never need it, but some misfortune like a broken ankle could force you to spend the night in the woods and a fire would feel mighty good. In the morning an occasional heap of damp leaves or evergreen boughs tossed on the fire could produce enough smoke to signal rescuers to your location. Matches from a match safe shouldn't be used for lighting cigarettes; save them for emergencies.

Dress Properly

Anyone venturing into the woods alone should be certain that he is properly dressed for the weather and terrain he will encounter. The proven safety factor of blaze orange clothing is especially important for the single hunter. So small a thing as a fluorescent cap will make him conspicuous and identifiable at a tremendous distance, and it won't diminish his hunting success one iota. A blaze orange safety vest will make him still more conspicuous to other hunters.

Hunting techniques for the loner are beyond the scope of this article, so let's move on to that glorious moment when the roar of your rifle has died away and a nice whitetail lies on the ground before you. Your heart is racing with excitement as you approach your prize. And then you glance at your watch.

"Four forty-five!" you exclaim. And then, if you have given no previous consideration to this eventuality you add, slightly hysterically, "I'll never get this so-and-so out of the woods before dark!"



MOVING A DEER A LONG DISTANCE
OVER BARE GROUND CAN BE AN ORDEAL.
A DEER BUGGY TAKES MUCH OF THE
WORK OUT OF IT.

If, on the other hand, you have considered the possibility of success at a late hour you will know just what to do. First, you will field-dress the deer—no matter how late it is. Then you will get it off the ground so the air can cool it thoroughly by the time you return for it next morning, possibly with help.

Hanging the animal is best, but if you've ever thrown a rope over a limb and tried to pull a big buck off the ground unaided, you know there must be an easier way to do it. Many methods have been proposed, but most of them involve cutting a number of stout poles, etc. which is a monumental job for anything short of an axe; furthermore, cutting live trees is illegal in many places where deer are hunted.

A better solution is to carry a miniature block and tackle that weighs only 12 ounces or so and fits nicely into a coat pocket. Not only will it hoist a deer in seconds, but I've used mine for a number of other lifting and pulling

jobs. You must remember to take along two additional lengths of rope (nylon takes up little space). One long piece, thrown over a limb, is used to raise the upper block into position and snub it fast. The other ties the lower block to the deer's antlers or neck. Hanging your deer by the head end affords good drainage and protection against rain or snow. Prop the body cavity open with one or two short sticks.

Hanging Recommended

Lacking a block and tackle, you can usually find a suitable windfall over which to drape your deer, belly down, to cool. Under most conditions this will suffice, although hanging is still recommended, especially in warm weather.

Before you head for camp or home, be sure you can find your deer when you return the next day. Mark the spot, perhaps with an eye-catching handkerchief tied to a nearby tree. Take note of all easily recognizable landmarks, and where they are lacking mark your route as you leave. The time-honored method of chipping shallow blazes in the bark of trees along the way on the side you'll face as you return is not recommended.

A newer trick is to mark your route with engineer's flagging, strips of brightly colored plastic tape tied to trees and bushes. This material is available in rolls from surveyors, blue-print firms and forestry supply houses. Remember to remove these streamers as you leave the woods with your deer.

All these gadgets make life easier for the man who hunts alone, but unless they can be carried in comfort they are an intolerable nuisance. Here's how I solve that problem. First, I eliminate all weighty objects from my pockets, with the exception of spare ammunition which should be kept handy, and such small items as wallet, car keys, handkerchief, and compass. Everything else, including lunch, camera, block and tackle, spare socks, insulated jacket liner for stump-sitting if the weather is really cold, and a sling for carrying my rifle after I get my deer, goes into a little red rucksack on my back. There's even room for a vacuum bottle, and rain gear in threatening weather. No



FOR TOTING A VACUUM BOTTLE, CAMERA, EXTRA CLOTHING AND THE LIKE NOTHING BEATS A SMALL RUCKSACK OR DAY PACK.

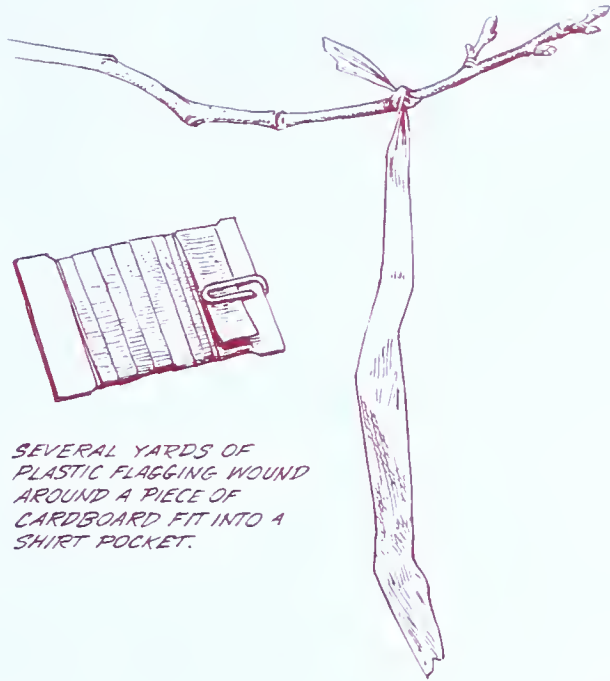
matter how much I cram into it, it rides so well I scarcely know it's there.

But back to the deer. Whether or not you had to leave him there overnight, getting him out of the woods unaided will tax both your ingenuity and your strength if the distance is great. Dragging is the usual method where terrain permits. Tie a rope around a buck's antlers or a doe's neck, take a half-hitch around the muzzle to keep it from digging into the ground, and fasten a short stick to the other end for a handle. Some hunters like a long rope they can put over one shoulder; others prefer a short rope that lifts the front end off the ground.

If there's plenty of snow on the ground it is feasible, though not pleasant, to drag a deer as much as several miles. Bare ground is something else again. Thick brush is bad enough, but rocks create so much friction that the deer's hair is left on them in tufts and bunches. Wear and tear on the hide can be ruinous, although despite much that has been written I could never see that it damaged the meat.

Forget It

The books say you can carry a deer out on your shoulders, and you can—if you are in good shape and appreciably larger than the deer. Otherwise forget it. Heart attacks and ruptured discs don't need much of an excuse for happening. It might be a good idea to forget this whole thing regardless, as a deer draped over your shoulders—white tail bouncing as you walk, antlers glinting through the brush—could well draw a bullet from some over-anxious hunter who shoots before he's certain of his target. Westerners and Alaskans, who perhaps have less of a safety problem than Pennsylvanians, because of lower hunter density, have more of a tendency to carry game animals out of the woods than we do. They find a packboard the best choice for this—next to a horse. Nowadays, most of them drape their game with an orange or red cloth—or better yet, a blaze orange vest that fastens with tie tapes. This is always a good idea, no matter how you're moving your trophy.



SEVERAL YARDS OF PLASTIC FLAGGING WOUND AROUND A PIECE OF CARDBOARD FIT INTO A SHIRT POCKET.

For many years one of my favorite whitetail hunting areas has been a rather remote mountain hollow, and it has provided me with some man-sized bucks. The only trouble has been the long, rough uphill drag to get them out. A deer cart or buggy would have made the job a lot easier, but I was afraid I couldn't handle the typical one-wheeled cart alone. Then quite by accident I learned of a buggy equipped with two wheels for one-man use. Constructed of aluminum tubing with a canvas cover and arched steel axle, it weighed only eight pounds and collapsed into a small, flat pack that could be carried on the back like a packboard. It didn't take me long to buy one.

This buggy has proven to be the answer to the deer transportation problem. True, the wheels are a bit on the small side for climbing over rocks, and the deer's neck must be doubled back to fit the buggy, but I doubt that it requires more than a third the exertion consumed by dragging. And in the level, open woods you can *run* with it, if you are so inclined. The canvas cover was red and white, but I sprayed the white with yellow paint to make it look less like a deer's tail.

When spending most of the season in my customary haunts, I often take it in before the season and hide it under a log in the area, encased in a plastic bag. It stays there until I get a deer—or until I plan to hunt elsewhere. When I do the latter, I carry it while hunting or stash it somewhere in the new area. The canvas cover in which the take-down pieces are packed will also accommodate a few other items, pinch-hitting for the little red rucksack. If my hunt doesn't take me too far from the road I sometimes leave the buggy in the car and return for it if necessary.

If you buy a deer buggy of any design, don't forget to take plenty of thin nylon rope with you. It takes about 20 feet to securely lash a deer to mine and to tie the legs and head out of the way. As with dragging, it is a good idea to adorn the deer with bright colors. A fluorescent orange cloth for that pur-

pose is standard equipment with the buggy I bought.

Many hunters are completely prepared for the actual hunting, but come to grief in snow, mud, or sand while trying to drive their cars to or from their hunting grounds. Again, a little foresight can usually prevent these mishaps. Snow tires are so universally used in winter that I feel foolish mentioning them here, but a few hunters still brave the back roads without them. More often lacking are such emergency aids as a shovel, an ax, a tow chain, tire chains, and a bag of sand or cinders. The car won't mind toting all that stuff; in fact the more you pile in the trunk or station wagon the better those snow-grips will take hold, and when you need it you really need it. The guy who travels alone, whether in the woods or out on the road, can't afford to overlook help in any form.

Above and Beyond

Just before dove season opened, Commissioner Robert E. Sutherland happened to be talking with Richard Bechtol of Erie, who mentioned that he would be 76 on October 1 and that he still hunted regularly and had just bought his new license. Commissioner Sutherland told him he was glad to see him able to get afield regularly—"But don't you know you could get a senior license?" (This is available to residents aged 65 or older and sells for \$5.25.) "Well," Mr. Bechtol replied, "I've still got a good job, and good health for which I'm right thankful," and he said he refused to buy a senior license because he felt the Game Commission was doing such a good job that he should pay full price for his license the same as everyone else. It's nice to know there are veteran hunters who realize that Pennsylvania still has hunting that compares favorably with the "good old days," despite our increasing population and urbanization, and that their license money helps make this possible.

Fabulous Flyer

The wandering albatross is the largest of all living flying birds, having a wingspan of over eleven feet.

Flamingo "Floss"

The bill of the flamingo has special filtering structures to strain out food particles when water is pumped through by the tongue.

Sort of a Tongue Scraper

The upper jaws of whales are equipped with whalebone or baleen. This is a series of closely packed, horny outgrowths from the roof of the mouth.



another pheasant opener

by nick sisley

IT WAS homecoming for Honey. For the first time my yellow Labrador was returning to southeastern Pennsylvania pheasant country where she was born. I live in western Pennsylvania, but I plan a trip to Cumberland and York counties every pheasant season.

One of my best friends has settled in this area. He is a medical man who saves lives and eases pain with remarkable regularity. The families of his patients always feel obligated to invite him to hunt their pheasants once they find out he keeps bird dogs. As a consequence, Scott has found more places to hunt in a few years than most of the sportsmen who have spent a lifetime in this area.

Our hunts are planned many weeks in advance, so they are greeted with a

great deal of anticipation. It means a four-hour drive for me, but I always arrive the night before opening day. This would be the first pheasant hunt for my upstart yellow Labrador, The Honey Badger. My pointing dogs were left at home. I have an old-timer who performs to perfection in grouse and woodcock coverts, but she is a real pain in pheasant land. Why? You tell me.

When I reached Scott's, we fed and watered the dog and transferred shotshells, shotgun, three or four pairs of boots, and all my other hunting gear to Scott's pickup. Next it was time to wrap our hands around a mug and thoroughly discuss what was on tap for the next three days. Scott always has the itinerary of our hunt planned from A to Z. It's usually something like this:

We start out at 9 a.m., opening hour on Saturday, at the cover where Scott and his dogs have found the most game during their recent training sessions. Then we hunt the second best place, third best, etc. Normally there are plenty of birds in the covers Scott chooses. The second day of my visit, Sunday, is reserved for skeet shooting and talks with old friends, and is followed by the last day of our hunt. I don't think we've ever been blanked. Scott's good planning insures that we have a super hunt every year. I mention this because others who seek out pheasants should make a hunting plan based on success during scouting or dog training sessions. Those who don't plan their hunts carefully usually fumble from place to place and end up with mediocre success.

Before turning in, we toasted Scott's old pointer who had died a few months before. Scott had acquired him in Tennessee when the dog was three or four years old. He was well trained on quail. He made a remarkable adaptation to

pheasant country, and for many years gave his master much pleasure. He was a tough one to lose. We had three dogs to open this season: my yellow Lab, Honey; Scott's young black Lab, Rocky; and the dog we'd depend on most, Spice, my companion's orange-and-white pointer gyp.

Along Yellow Breeches

With breakfast under our belts the following morning, we loaded the dogs, climbed aboard the pickup and arrived at our hunting area minutes later. We left the Labs in the car. Spice, the pointer, would be our lone canine to help us hunt the first patch. The area was huge and the habitat ideal. It must have encompassed 700 or 800 acres. Almost half of the farm was grown up in weed fields that looked like they hadn't been cut in three or four years. Most of the remainder was standing corn, with some thick bottom country along the south bank of Yellow Breeches Creek.

It was an overcast morning, the threat of rain was imminent, and the vegetation was saturated. Fifty feet through the weed field our pants were soaked. We soon forgot that problem, however, for Spice's tail was already vibrating like a high-speed windshield wiper. Her nose was close to the ground. It was obvious she was trying to decipher which way the pheasant in front was running. Soon she was locked on point. Scott and I both walked in for the flush, and a big hen went out with a flurry.

We turned right and worked up a small hollow laden with more perfect cover; briars, weeds, and a smattering of multiflora. What else could a ringneck want? There was one in residence here, too. Even on the dull overcast day his iridescent plumage was magnificent. He flushed wild ahead of the dog. Neither Scott nor I was in position for a shot.

Other hunters were working this area, too. One has to expect that on opening day. Never is hunting pressure any heavier. Scott and I naturally stayed out of the unharvested cornfields, but some parties in this area showed no compunctions about searching out cock birds in these forbidden



SCOTT TAKES A moment to admire his first ringneck of 1975. Pre-season scouting helps make opening day successful on birds, experienced gunners find.

places. No wonder farm owners post their property so often these days!

In the next several hundred yards we had two more points, but both produced hens. Then it was a long dry spell. We guessed that the quarry was taking refuge in those tall, unharvested cornfields. I suggested that Scott keep his eye on the farm activity. As soon as the landowner harvested his corn, there would be nowhere for the pheasants to go but back to the weed fields. Scott did that and returned two weeks later for a super hunt.

To retrace our steps to the car, we angled down to the Yellow Breeches and worked the different-looking but still ideal pheasant habitat along the bottom.

Scott was explaining to me, as we hunted, how high the Yellow Breeches had been during Agnes in '72, and he noted the even higher water mark this stream had reached only a few weeks previous to our 1975 hunt. The evidence of the damage was still very apparent. I must have had my mind off the hunting as Scott was explaining all this. That's the only excuse I can make for missing—with both barrels!—the bird that erupted in front of me. But the rooster departed on a path that took him in front of Scott, who folded the gaudy gladiator with one shot, a long one. But the bird wasn't dead. In fact, I swear his legs were in motion before he touched down. Lucky we had Spice along, for without her sharp nose on the scent trail, we probably would not have picked up that running cripple.

Long Dry Spell

Then came another long dry spell. We were almost back to the car before Spice locked on point again. This time a woodcock helicoptered out when we walked in, and Scott clipped it cleanly before it peaked above some alders.

At the next area, Spice got a rest, and we turned out both Labs. It was a different looking bit of pheasant country. All the grain fields had been harvested and the weed patches weren't as high. The latter were loaded with both ragweed and foxtail. Before starting we took time to devour our sandwiches and empty the coffee thermos.



SISLEY SHOWS PROOF of his 12-ga. Parker's efficiency. Gun's unusual boring—improved cylinder and full—is ideal for these big birds at all upland ranges.

The Labs were working at ideal shotgun range, and both were industrious. The first two birds the dogs flushed were hens, but these drab ladies only further increased the hunting desire of our two young dogs. It was well over an hour before we encountered any more action. Scott was in the right position when both Labs ferreted out a big rooster from under a briary hiding place in a thick weed patch. Both barrels from Scott's Browning belched in vain—or so it seemed. Scott was soon kicking stumps and fence posts and anything else he could find to vent his disappointment at having missed an easy shot.

I had an inkling the bird had been hit, so I watched intently as he flew along a wood's edge, over a winter wheat field. Just as the bird was fading from view, I thought I saw him fold. I wasn't sure, so I didn't say anything. I did make sure we followed in the general direction and kept my eyes

peeled. Fifty yards away I was almost certain I could see the dead pheasant in the field. I stopped, set my yellow Lab at my side, pointed out the bird with a hand signal, and gave the command to fetch. I believe he saw it on the ground, too. He went directly to the bird, picked it up, and returned proudly.

Scott's eyes were wide. For a few seconds, he couldn't even talk. Then I told him how I thought I had seen this bird fall, but wasn't positive. It further proved that our tactic of following up every bird we shoot at is a good idea. Pheasant hunters should also watch every departing bird intently, and for as long as possible. Ringnecks are big birds, tough to bring down. I believe this one literally flew away with his heart shot out.

Soon we were back at the car. Scott cased his gun for the day. He knew a good spot 25 minutes away, he told me. Maybe I could collect a bird or two there. Again we hunted hard, had several hen birds up, and the setting sun was beginning to break through the dissipating cloud cover when Spice slammed into point along a wood's edge in a weed field. I recall vividly how the sun glistened on the dog's white coat and the surrounding late October vegetation. The shot was easy pickin's. I knew the bird was right in front of the dog, and he folded neatly to the open barrel of my 12-bore. Three birds for the two of us seemed enough. There wasn't much shooting time left, so I suggested we call it a day.

Pheasant Favorites

The next morning we took our pheasant guns to the skeet field to further tune up for the upcoming season. Scott shoots a 20-gauge Browning that was formerly bored modified and full. He's had most of the choke polished out of the lower barrel, so now it is something like straight cylinder and full. My favorite pheasant and dove gun has been mentioned in the past to GAME NEWS readers—a 12-gauge Parker with the unusual boring of improved cylinder and full. Both of our guns sport 28-inch barrels.

Scott decided that for Monday morning we should return to the same area



SISLEY'S YELLOW LAB, Honey, shows her manners as she returns a ringneck. Flushing/retrieving birds such as Labradors are popular with many pheasant hunters.

where I had killed the cockbird over Spice's point Saturday afternoon. There was more country to hunt here and more birds to find. We were working a harvested cornfield, but, unlike most of the ones hunters find these days, it was laden with ragweed and other weedy vegetation which offered pheasants lots of cover while they filled their crops with corn the automatic picker had missed. The field was bordered by a rock wall and a thick woods full of groundhog holes and grapevines. If ever I've seen a perfect spot for a cockbird, this was it.

We weren't disappointed. One flushed just in time to avoid the two Labs nipping at his tailfeathers. He was boring from left to right at full speed. I hurried my first shot and missed—and took the second shot just as the bright morning sun blotted out everything.

For a second I couldn't tell what happened. Then I saw the bird, obviously hit but towering, trying to get above the tree line along the woods. I was helpless, standing with an empty gun. But my load of 6s must have done a fair job, for he crumpled just as I figured he was going to escape. Both Labs were in the area of the fall in a flash. Though a few tailfeathers were lost in the pro-

cess, both dogs stuck their muzzles into the rock fence and pulled the bird out in unison, wings flapping. I remarked to Scott that it was a great way to start the morning.

He related that the sun had also blotted out his vision, preventing him from shooting, and he never saw the bird after I shot the first time.

Next it was back to the area where we had started our hunt Saturday morning. Here we spent two frustrating and unsuccessful hours. The birds were giving us the slip, evidently by hiding in the standing cornfields. Scott decided we should try the second area we had hunted on opening day next. Here our luck improved.

Gyp Gets Call

Scott's pointer gyp got the call. Fifty yards from the car, Spice's animated tail indicated that she was on game. In 60 seconds she had it all worked out and was locked on point. Unfortunately it was a hen. Fifteen minutes later we were working up a thick hollow when two hens flushed wild. Spice again started making game, and we figured she was on the trail of the two birds we had seen depart. However, she kept moving ahead until finally she went out of sight. Both Scott and I hurried forward, wondering if it wasn't a wily cockbird trying to escape on the ground, under the cover of his two sweethearts that had chosen the airborne route. Sure enough, we found Spice on point in high weeds as we topped a rise. We both walked in with thumbs fidgeting, safeties, hearts skipping. You know the feeling! This one erupted with a thundering and alarming whirl of wingbeats and swung off to the right, directly into the path of Scott's shot string of 6s. That bird was dead in mid-air. Seconds later Spice had the big bird in her grasp and was returning to her master.

In the next hour and a half we flushed two more hens, but the cockbirds were making themselves scarce.

I had to leave early to take care of some business on the way home. Scott had one more cover that he wanted to try. It was a small patch, the type that

often produces a bird, but we both knew that these small coverts sometimes mean only leg exercise. Again we tried both our Labs. Scott lamented that this would be the last year we'd hunt this area. It had been purchased by a land developer. If we'd return today, we'd probably find several streets and a score or more of houses instead of a 100-acre weed patch. As sportsmen all over the country know, loss of prime game habitat becomes more and more of a problem each season.

We worked out through the weeds along a fencerow edge, and Scott pointed out the numerous pheasant droppings, plus several tramped-down dusting areas. It was obvious that pheasants used this patch regularly—but were they here now?

We spent almost an hour working back and forth, but as ideal as the cover looked and as many thick, briary patches as we penetrated, it seemed these birds had taken up residence elsewhere. The dogs never made game to indicate that telltale bird scent was in the air.

However, when we had all but given up and were almost back to the car, Honey flushed out a dandy rooster. I should have been more attentive. Luckily the bird chose a flight pattern that angled back my way. Actually it was a ridiculously easy shot. It felt like the first barrel was perfectly directed, so I couldn't believe it when he didn't fold. I missed him cleanly with the left barrel. At least I had enough sense to watch intently. I marked the area where the pheasant landed and Scott and I both hurried to follow him up.

Scott's black Lab, Rocky, found this one. It was stone dead. Like that bird of Scott's on opening day, it had evidently flown off with its heart shot out. Pheasants are tough!

Six pheasants and the odd woodcock for the two days were more than enough. We unloaded our doubles and walked back to the car with the dogs at heel, savoring the high points of the last few days, reaching back in our memories to recall the great pheasant hunts we've enjoyed in the past—and, yes, we began making plans for yet another pheasant season.



A MALLARD DRAKE PASSED OVER. I gave him a low feed call and he came to the decoys, rocking and cupping his wings, his landing gear down.

Two Plus Two Plus Two

By John Munoz

IT HAD BEEN raining all night and it was cold and wet as I left the house, heading toward Montgomery County. When I got to the Valley Forge cut-off it started coming down lightly again. I looked at my watch; it was 6 a.m. and sunrise was 7:10. It was the third week of duck season and the first week of small game, and I was on vacation. As I got near the creek, the dawn just started to come up, with light orange highlights in the dark sky. Here in Pennsylvania we had the okay to start hunting one half hour before sunrise the year this hunt took place.

I had just made the turn onto the road leading down to the creek when

a small doe and a buck crossed the road in my headlights. As I slowed down, they headed into the cornfield, and I said to myself, keep that up and you may not make it to deer season.

A few minutes later I parked and got out, opened the trunk and took out my hip boots. I was all alone and not in a hurry as I put on my hunting jacket. I was listening to the bubbling of the creek and thought to myself, since it's the middle of the week, there shouldn't be too many gunners out. I had planned this hunt a few weeks before, and when duck season opened I had a half-dozen decoys hidden there along the creek.

I took my shotgun from the trunk

and a box of magnum 6s, filled my gun vest and started up the creek. I was using a semi-auto 12-gauge, plugged for three shots.

As I got near the spot I was going to hunt, I heard two shots go off down on the river and the cry of disturbed crows. The spot I picked out on the creek for my decoys was only three feet deep, with slow-moving water over a stone and sand bottom. It was a good spot. I had seen many ducks resting in this area in the past, so I put out the mallard decoys, four hens and two drakes, setting the hen birds out in front with the males behind in a staggered pattern.

The decoys were set out about 30 yards downstream from my stand along a fallen tree, leaving plenty of room to let the ducks come in to them.

I had just gotten to my stand when a single mallard drake passed over, heading downstream. I gave him a low feed call and watched him turn to the left and disappear behind the trees, but I knew he was on his way back. He came to the decoys, rocking and cupping his wings, with his landing gear down. I aimed at his green head and fired. He folded like a small bag of sand, landing in front of my lead decoy. I waded out, picked him up and headed back to my fallen tree blind.

As I poured a cup of coffee from my thermos, I heard shooting across the creek and up in the field, and also the baying of a pair of beagles. Someone else was having a good time, too. Two hen mallards dropped to the decoys, landing out front and to the left and then taking off again and heading up stream.

Drizzling Again

As I continued to drink my coffee, I looked at my watch; it was almost 9, and it started drizzling again. A small duck came in low and passed over my decoys from behind me. I gave a low call, then followed up with a feed call. The duck circled and started in. It was a male wood duck, and I took him on the second shot.



W.V. K.D.

A SMALL DUCK came in low and circled. It started in. It was a male wood duck, and I took him on the second shot, then waited for him to float downstream to me.

Then I waited for him to float down stream to me and the decoys.

It got quiet for about an hour and a half. About 11 o'clock I decided to take in the decoys and hide them. I would see if I could pick up my third duck somewhere upstream by jump shooting along the creek. I couldn't help but marvel at autumn's great colors. So up the stream I went, taking it nice and easy. I knew that about 150 yards upstream was a small swampy area with some duck weed growing there. It was out of the wind and a good spot to pick up a bird.

Soon I stopped for another cup of coffee and a sandwich. Just as I was finishing my last bite, I heard those beagles baying again up in the field on my side of the creek. I turned to listen in their direction when two shots went off, and a ringneck came sailing down my way. He was just about overhead when I hit him with a load of the 6s. He fell about ten feet out in the creek, so I had to go in and



AFTER TAKING two ducks and two pheasants, I told myself I was done for the day. But as I started back for the car, a woodcock went up and I thought, Let's see, maybe I can pick up a pair . . .

retrieve him. I had just made it back to shore when two more shots went off, both to my left up in the field; I turned again and dropped my second pheasant at my feet. After picking him up, I walked to the field. As I got to the top, I saw two hunters leaving in their car. Then it started to drizzle again.

I stopped to look over the pair of

pheasants I had just gotten without too much work. I told myself I was done for the day, so unloaded my gun and started back toward the car. I was in the woods about 50 yards when a woodcock got up and almost scared the life out of me. Let's see, I thought, maybe I can pick up a pair of woodcock and make a really good mixed bag. So I loaded up and started walking again.

I had taken about 25 steps when a woodcock got up on my right, heading out toward the field. I turned and fired, catching it at the end of the woods. So back I went, picking up the woodcock and then started toward the car again, along the field just inside the edge of the woods. Soon a second woodcock went up. I missed with my first shot but scored with the second. I continued down through the woods till I came out to the car, not moving anything else.

Just as I finished getting out of my gear and putting the two ducks, two pheasants and two woodcock in the trunk of the car, a couple of hunters drove up, stopped, and asked how I had done. So I told them—all they could do was look and laugh, and so did I.

I guess I was pretty proud of myself. On the way home, I stopped off to see a friend I have often hunted with, but he was working overtime and his wife didn't know when he would be home.

I have tried to do the same thing again, but since that time I haven't had much luck. I guess this must have been my "once in a lifetime hunting day."

The Gorilla's the Greatest

The gorilla, giant of the ape world, is the biggest and heaviest of all the primates.

Long Distance Deer Hunter

From time to time, we've mentioned that many sportsmen travel considerable distances to hunt deer in Pennsylvania. Perhaps the record holder is Robert C. Jackson, a British citizen, who in 1975 traveled from Dharhain, Saudi Arabia, to Potter County, Pa.—some 7500 miles—to try for a whitetail. Unfortunately, he did not tag a trophy last year. This year—who knows?

Lady's Life

By George E. Dolnack, Jr.

FROM THE very beginning, Lady, our five-year-old tri-colored beagle, showed a streak of determination that at times bordered on stubbornness. And though some of the stunts she has pulled tugged at the heartstrings, some were not so endearing.

Her first home consisted of a three-foot-high 8×12 enclosure with a gate and doghouse. She showed her aversion to confinement by climbing over the fencing like a monkey, so I replaced it with four-foot fencing.

Lady solved this problem by jumping on top of her doghouse and clearing the top from there.

Not to be outdone by a dog, I took the old three-foot fencing and covered the top of her home with it. This inspired her to dig under the 2×4s that ran along the bottom of the pen and provoked me into pouring a concrete floor. Lady found this final bit of strategy too overwhelming, even for a smart canine.

To start her training, we purchased a rabbit at the local farmer's market, put it on a leash and let it run around the pen and then up through the fields where we'd tether it. Then we'd take Lady out, leash her and let her run a line until she found the rabbit.

During dog training season I was traveling quite a bit between the east and west coasts and couldn't devote much time to Lady. Since Dad was



LADY LIKED TO hunt, but some days she'd do it with strangers she met instead of us, apparently deliberately. Here she is with Chris and a rabbit she brought around to him.

retired and fulfilling his life's ambition to do nothing but hunt and fish, he offered to give her some much-needed field training. So when we vacationed at the old homestead in Westmoreland County, Lady went along and remained there for a few months.

When we were back home and talked to Dad by phone, he gave us glowing reports of Lady's progress. She was a headstrong dog, he said, and would run a bunny all day if given the chance. And, he added, she was great on pheasants.

In October, her homecoming was a joyous occasion for the whole family, especially my wife, who, when she hung the wash or worked in the garden, liked to talk to Lady. This was a real switch—initially, my beloved was strictly opposed to having a dog, on the grounds that she wasn't going to play

midwife to a pooch. But Lady won her over.

Our first hunting trip together was to the State Game Lands near Newmantown. We made our way through a small patch of woods and worked a field without stirring up anything. Then we hunted along a cornfield where Lady went inside the first half dozen rows and started to tongue.

I kept up with her progress as she worked toward the end of the field that



LADY TURNS AWAY from a rabbit she just ran past Dolnack. One of her virtues is that she won't unnecessarily mouth game, which pleases the cook.

was near a wood lot, and then stopped in the corner facing the cover.

Her tonguing was reaching a near-frantic stage when all of a sudden a ringneck flushed and headed towards the trees. I pulled up, flicked off the 870 pump's safety, tracked the bird and fired.

It hit the ground running and got into the woods. I was mad at myself for messing up. The first piece of game Lady had put in front of me and I pulled a bad shot.

Hurrying over to where the ringneck went down, I called Lady. She raced over to the spot, picked up the scent and was off. I circled the woods and

came through at an angle toward where I had last heard her. I couldn't believe the sight that greeted me. The pheasant, still alive, was lying on its side and Lady had it pinned with her forefeet. Every time the bird tried to get up, Lady pressed down on it firmly. I picked the bird up, dispatched it quickly, and told Lady what a great hunter she was.

We didn't get into anything else until we headed for the car and Lady started sniffing around an old rockpile that was swallowed up by a blackberry thicket. The next thing I knew she was in the middle of it, carrying on something fierce. Every now and then she approached the outer edge, only to plunge back into the center.

After several minutes of this, two hunters came by and asked what was going on. I told them that the dog was trying to roothog a rabbit out of the blackberry bushes, although at this point I just wasn't sure what was going on.

Whispers and Snickers

They looked at each other, moved back and watched. A little while later they started whispering to each other and snickering. I knew what they were thinking and put my faith in Lady. She didn't let me down—a rabbit came ripping out on my side of the briars so fast that I nearly didn't get a shot off.

Picking up the bunny, I looked over at the two who were taking it all in and said, "Don't get 'em all, fellows." Now it was my turn to laugh, and I did.

And this was the way it was with Lady, season after season. Oh, by field trial standards, she isn't the best dog in the world. But she's a braggin' beagle because she loves to hunt and is a hard worker.

Everything was fine until the opening day of this past hunting season. Five minutes after it opened, she bounced a cottontail out of a fencerow. The rabbit ran between my son Chris and me, twice dodging in and out of the undergrowth before we nailed it.

Later on, she picked up another and ran it down over a hill and up along the Brandywine until it holed. We called her but got no response. A half-hour



ONE OF THE DELIGHTS of small game hunting is being afield on a cool fall day with your dog. Here, Lady works in and out of a fencerow, cooperating well with Chris.

went by and I headed down toward the stream while Chris stayed along the top. I finally spotted her off in the distance coming my way with two other hunters.

When I called her, she acted like she didn't even hear me, but one of the hunters grabbed her and held her for Chris, who leashed her.

I gave her a good scolding and then we walked to the edge of the field. It was posted on the other side of the fence and we sat down under a hickory tree to eat a sandwich and discuss the plans for the rest of the day.

We finished and then angled away from the wire with Lady still on the leash while I debated whether or not to turn her loose again. When I gave her some commands she seemed to mind so I reluctantly unsnapped the leash.

This was a mistake. She headed straight toward the fence and picked up a scent that led her into a posted cornfield that three hunters were now entering. I called her but she didn't heed. The heck with her, I thought, and for the next hour and a half Chris and I hunted alone.

After we got back to the car, we drove down toward the Brandywine on the road adjoining the posted property, turned around at the bottom after calling Lady, and headed back toward the top. Rounding a bend we saw the three

hunters walking toward the road with Lady straggling along, and I noticed tail feathers sticking out of one hunter's game pocket.

Chris got out of the car near a gate and retrieved Lady. The hunters told him that they tried to make her go back but she wouldn't leave. Then they said that she got them two ringnecks and a rabbit. She was well disciplined when she got back to the car and we headed for home a short distance away.

The following Friday, hunting partner John Doran and I took a day of vacation and decided to try the Game Lands at Mt. Gretna.

I was up early, packed a lunch and thermos of coffee and after much soul searching submitted to the barking of Lady, who was anxious to go along. I loaded the Bronco, put her in and drove down the road to John's.

He invited me in and I had a quick cup of coffee while he packed his lunch. Then we gathered up his gear and went out to the Bronco. I opened the door to put his things in and saw Lady licking her chops. Oh, no! I thought. Sure enough, she had got into my lunch and gobbled up a liverwurst and onion sandwich and had started in on a piece of baked kolbasi for the second course.

Now the sandwich was one thing but the kolbasi was another, and that little stunt got my Slovak dander up. But I



CHRIS RELAXES for a minute with Lady and a running mate. With a rooster and a cotton-tail already in the bag, it's time to have a sandwich and a cool drink.

soon cooled, realizing that it wasn't her fault. So I trimmed off the end piece of kolbasi that she had been chewing on, gave it to her, and rewrapped the other piece. I put it back in the bag with a turkey pastrami sandwich that she somehow overlooked.

At Mt. Gretna, Lady was up to her old miserable tricks again, for as we were about to leave one area without having any success, she disobeyed and wouldn't come when I called her. I tried to sweet talk her, to no avail, and even failed to entice her with the kolbasi. I finally caught her in a cornfield after rolling around in some stubble, and it took some doing to get her back to the Bronco, but she found out who was boss the hard way.

When we hit the next spot we wanted to hunt, I cracked the windows, put the lunches under the hood and locked her in the Bronco. When we came back she was whining and apologetic. At our next stop I decided to give her another chance. She got us a rabbit and flushed a ringneck that we didn't

get a shot at. When we were ready to quit, I called her and she obeyed.

The next day, Chris and I, with Lady and Georgia, her newly acquired pen mate, hunted the Marsh Creek area. Right off the bat Lady flushed a hen, picked it up again, ran it for about 300 yards and put it up a second time. She was tuning up.

Coup de Grace

We hit a swampy hollow next and she started on a ringneck. Chris powdered its tail feathers as it went up and I issued the coup de grace. Shotguns powed away over on the opposite hill, and I looked that way just in time to see what they were shooting at. A ringneck came over the top and glided down the hill, across an abandoned dirt road and landed on the rise above us.

I marked it down, called Lady and Georgia, and headed up to the spot. She picked the bird up right away and started to tongue. Her tail waved back and forth like a metronome and her barks echoed thru the woods below us. She headed for a huge briar patch and I sent Chris around the far side of it while I covered it downhill. Georgia followed Lady at a respectable distance, not knowing just what was going on.

Lady was in the thick of the briars and I couldn't see her. She was carrying on like a banshee and suddenly I heard some thrashing inside the entanglement but couldn't see what was going on. As the noise, now mixed with screeches, grew louder and neared us, I strained for a look. It was a sight to behold. Lady had grabbed the ringneck by the tail feathers as it struggled to get out of the cage of briars.

"Heads up!" I yelled to Chris. "Ringneck coming out!"

And it finally did, but not without effort. That bird was so upset that I think its normal speed was at least doubled. Anyway, that's what I told myself after we both missed it and it cleared the hedgerow.

Lady emerged from the briars with her ears ripped and bleeding. I called her and we took a breather, rewarding her with some crackers that Chris always carries along.



AFTER A GOOD CHASE THAT resulted in a cottontail for Chris, Lady gets well-deserved scratching behind the ears.

We crossed the hedgerow, went down an embankment to the dirt road and walked toward the creek. We stopped to wait for Lady who was now working the hedgerow above. She started to tongue and we turned in her direction. A cottontail crossed the road and ran into the adjoining field, Lady following in hot pursuit. Soon the rabbit came whipping back across the road, scaled the embankment and ran along the hedgerow towards us.

Chris fired and missed. It was one of those now-you-see-it-now-you-don't things. I got a shot off just as it turned into the field above the embankment and went to retrieve it. When I cleared the top, I could see the rabbit and started over to pick it up. I was about three steps away when, swish, it took off like a flash and ran into some low vines and bushes.

Lady was still on the trail and I got Chris on the other side of me just as she plunged into the mess. There was a

commotion in front of me and I looked down to see the rabbit scoot between my legs and tear back up the hill toward the briar patch. By the time I got into position for a shot, it put a small tree between us and I didn't get a chance to fire.

Lady followed, hard at work, while Georgia, as usual, was skirting. We hustled up to the briar patch and waited. Shortly, Lady was in the middle of it again where she had worried the ringneck. She chased the rabbit out the other side towards the hedgerow. It cut back and Chris finally got it.

On the way back to the car, a tired and obedient Lady walked beside us. It has been a great day. We all had fun and that's what it's all about.

As we plodded along, Chris said, "Well, Dad, Lady redeemed herself today, didn't she?"

"You can say that again," I replied. "Guess she didn't like women's lib after all."



RICHARD HAMMER of Bethlehem downed this 200-pounder with a single shot from his muzzle-loader. At right, Ohioan Robert Jacobs shows his single-shot trophy from Jefferson Co.



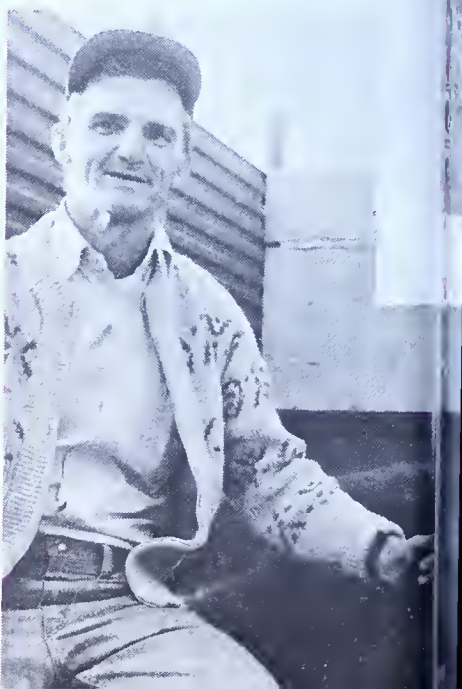
THIS
Hone

November 22—Day c

Hunting comrades share pride of Brian Foster of Seelyville, who kneels in front of 310-pound male bear he killed in Wayne Co.



Philip Toczykowski of Philadelphia relaxes with his brother-in-law Chuck Gruber after bagging and dragging 175-pound Pike Co. bear. Below, Mount Union native Joseph Meshyock killed his trophy, a 158-pound sow, in Centre Co.





A 310-pounder fell to Frederick Moser of
Eight men got it to car in six hours.



JERRY WATSON, Tyrone, took this
151-pound male bear in Blair Co. last
year.

ne Bear



ANOTHER Blair Co.
boar—181 pounds—
fell to Larry Leech of
Tyrone. Both this and
above bear were
taken in the same
township.





FIELD NOTES



I'm From Missouri

SOMERSET COUNTY—At the Somerset County Fair, a fellow stopped by our display booth and asked why I never had anything in **GAME NEWS**. He then told me about a fellow out his way who was training his beagle on rabbits, and it was so hot the rabbit and dog were both walking. Now, I know he'd like to see a Field Note . . . but isn't that stretching things a mite?—DGP Ronald Askey.



Cozy

MONTGOMERY COUNTY—I had a call from a rather disturbed woman about some strange animal that had wandered into her house. She trapped it in her bathroom and was quite anxious for me to come and retrieve the mysterious creature. When I arrived and opened the bathroom door, I discovered a 'possum all curled up and comfortably sleeping it off in her wastebasket.—DGP William Wasserman, Collegeville.

Creature Comfort

CENTRE COUNTY—I had a little problem with a bear at Poe Valley State Park; seems he was getting a little too chummy with the campers. Early one morning, after knocking over the usual garbage cans and so on, the bear decided to take a nap. Apparently he needed a backrest, because he lay down against the side of a tent. Two young girls were sleeping inside and it just happened that one was lying against the same wall of the tent that the bear was using as a backrest. The girl knew that the bear was in the campground, so you can imagine how she felt when this heavy body lay down against her. Understandably, she jumped away from the side of the tent. It was evident that the bear didn't like losing his backrest, because he proceeded to leave the area at full speed.—DGP George Mock, Coburn.

Sometimes It's Easy

LEHIGH COUNTY—An elderly woman in Bethlehem complained recently about the large flocks of blackbirds in her trees. I would normally discuss the problem by phone, but she seemed quite nervous—even a little afraid. So I drove over, and quickly saw that the birds were roosting there prior to migration. After a little discussion, I discovered the reason for her unease. "Have you ever heard of that movie Alfred Hitchcock made called "The Birds?" she asked. This was one problem easily solved by explaining that flocking was a perfectly natural occurrence before migration and her visitors would soon be moving on.—DGP Warren Stump, Germansville.

Losing Battle?

BERKS COUNTY—I've finally heard the ultimate advertisement on a Philadelphia radio station. The punch line: "Come to — in the heart of the Poconos. We are only an hour and a half from downtown Philadelphia and we are surrounded by State Game Lands." Once again, what the sportsmen have purchased and preserved is being exploited by developers. Safety zones effectively shrink surrounding game lands. Serve 'em right if we refused to handle any of their wildlife complaints. When will people learn that habitat has to be expanded, not decreased, if wildlife is to survive.—DGP Michael Schmit, Shillington.

M.D.?—D.G.P.!

FOREST COUNTY—As a game protector I have been called on to perform many duties, but over Labor Day weekend I had the most unusual yet. A young man from Pittsburgh stopped at my headquarters and asked if I would look down his throat to see if I thought he had tonsillitis. Needless to say, I recommended he see a doctor.—DGP Ernest Taylor, Tionesta.

Praise Him, All Creatures

CLEARFIELD COUNTY—George Tubo Jr. of Ramey related an unusual rabbit-in-the-garden tale. George, a devout Catholic, has erected a statuette of the Blessed Mother near his backyard garden. One day, a neighbor noticed a rabbit sitting up in front of the statue washing its face with its front paws, seeming to strike an attitude of prayer. The neighbor later told George that it was the first time he ever saw a rabbit saying a blessing before dinner. (Or perhaps he was praying that Mr. Tubo didn't catch him at his act.)—DGP Jack Furlong, Ramey.



Bicentennial Subscriber

CRAWFORD COUNTY—Deputy Jim Harakel, who works at the Pymatuning Waterfowl Museum, sold a **GAME NEWS** subscription this summer. That's not unusual—but the subscriber's name is Ben Franklin.—DGP Leslie Haines, Linesville.

Ouch!

POTTER COUNTY—Recently we had some neighbors in our home showing them the renovations we made to the house. Their young son Michael was impressed with my office and the mounted specimens. As they returned home, the father told Michael that I was a game warden and if he went out and shot deer illegally, I would pinch him. Michael didn't say a word for a while. Finally he looked up and asked his dad, "Where does he pinch you?"—DGP Ron Clouser, Galeton.

Well, He's Honest . . .

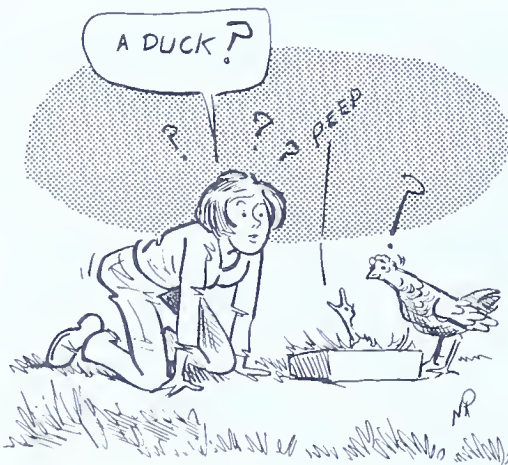
CLARION COUNTY—While giving a hunter education program, instructor Dan Kriebel was reviewing and asked, "Why is it necessary to ask permission to hunt?" The answer, of course, is, "It's common courtesy," but one boy shocked him with the answer, "So the landowner doesn't sue you."—DGP James Bowers, Knox.

Proud History

VENANGO COUNTY—As hunting season begins, all sportsmen should reflect on their part in a fine tradition as old as man himself. To preserve this tradition, we must demonstrate respect—for land, landowner, other hunters and both game and non-game animals.—DGP Leonard Hribar, Seneca.

Misplaced Support

BEDFORD COUNTY—One day when I went to the courthouse, my son rode along with me and waited in my Cherokee. Several boys walked by while I was inside and, not knowing he was my son, called to him, "That'll teach you!"—DGP Barry Warner, Manns Choice.



Foster-Foster Mama

BRADFORD COUNTY—Ellen Foust was mowing hay this summer when she scared a hen pheasant off its nest. She stopped as quickly as she could. Examining the nest, she found all but one egg broken. She got permission to put that egg in a bantam hen's nest. The egg hatched, but it turned out to be a young duck. Now, I know the hen is confused—but not as confused as Ellen!—DGP William Bower, Troy.

Mouths of Babes

ARMSTRONG COUNTY—While assisting DGP Charlie Hertz with a hunter education course, I got some unexpected help from a student. I'd just finished explaining the danger of leaning a firearm against a car. The young boy enthusiastically raised his hand and told how his father had done that very thing last hunting season. The rifle fell over, as they often do, and discharged a round through the side of the car. Luckily, nobody was hurt—that time. Perhaps now that boy can go home and remind his dad of a few hunting safety and firearms handling tips.—DGP Alan Scott, Rural Valley.

Better Than Fish

CAMBRIA COUNTY—Jay Wagner of EauClaire, Butler County, was fishing in Cambria County when he glimpsed a movement. Looking up, he saw a long-bodied animal of about 15 pounds climb atop a rock and slide into the water. The animal swam in his direction until it saw him, then quickly turned, swam to the other side and disappeared into the woods. Jay stopped at my house at 9:30 p.m. after fishing to share his excitement over the rare sighting of an otter.—DGP Daniel Jenkins, Patton.

Practice Makes Perfect

BUTLER COUNTY—Ever see an aerial mousetrap? The other day, just as I noticed a young red-tailed hawk perched on a limb, lunch in the form of a meadow mouse caught the bird's attention. With a few flaps of its wings and a long, diving swoop, the hawk pounced upon the mouse and grasped it in nearly inch-long talons. From where I watched the swoop seemed to end too abruptly, as though the hawk was a little over-anxious or had slightly miscalculated. Although the young bird's timing may have been slightly off, his accuracy was not, and it earned him a meal.—DGP Ned Weston, Boyers.



Corn-Fattened Coons

LUZERNE COUNTY—Some raccoon hunters and trappers were concerned about the carryover of this evasive game animal due to the increased harvest pressure caused by higher fur prices. But their skepticism was erased when the sweet corn began ripening this summer. The masked bandits hardly missed a patch in the farming area. Deputy Glenn Reakes of Sugarloaf live-trapped one on a damage complaint for me which we estimated at about 30 pounds, though Glenn said it looked even bigger when he released it.—DGP Bob Nolf, Conyngham.

Come and Get It!

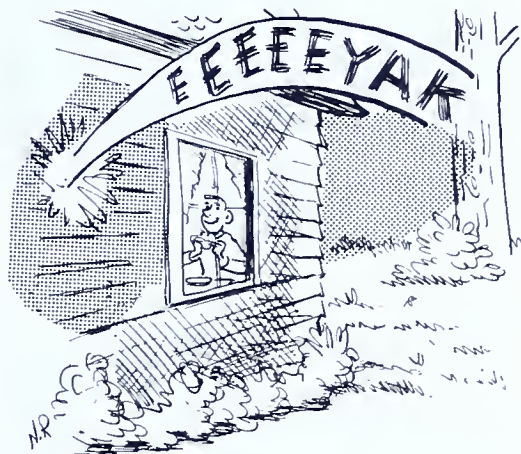
The Food and Cover Corps planted several plots of buckwheat on Game Lands this summer. It is amazing how fast the deer found these fields. We saw several grazing less than two weeks after it was planted.—LMO Richard Belding, Baden.

Looking Good

TIOGA COUNTY—Deer and turkey have been appearing in ever-increasing numbers as the weather cools. With a bumper mast crop on the oak and beech, hunters should enjoy another great season in 1976.—LMA Dave Brown, Westfield.

Price of "Progress"

MONTOUR COUNTY—This county has experienced another poor year for natural reproduction of ringneck pheasants. According to local farmers there has been a steady decline in the pheasant population for the past 10 years. I have noted this since 1969, my first season in Montour County. Several factors can be blamed: weather factors during nesting seasons and changing farming practices which, among other things, lead to increased predation due to reduced winter cover areas. Fencerows, for example, are disappearing faster than ever.—DGP Richard Donahoe, Danville.



Feathered Serpent

HUNTINGDON COUNTY—Almost everything depends on where your head is at. For example, while visiting recently I caught a large rattlesnake and made a meal of it. When my friends returned, Cindy asked what I was eating. "Chicken." . . . "Mmm, pretty good!" Then Gary came in and asked where I found the snake. I just laughed and looked at Cindy, who then realized what was going on. She turned white and headed for the bathroom. After a very lengthy stay, she returned and threw me out. I can't understand women; you dress them up and feed them and they still kick you out.—DGP Philip Lukish, Alexandria.



Can't Win 'em All

PERRY COUNTY—This summer we have received unending complaints about raccoon damage to sweet corn. Deputy Lee Shull had somewhat different problems with a raccoon that preferred his chickens to corn. Being experienced with 'coons, Lee set out a box trap, baited it with sardines, and captured "a box turtle." (What else in a box trap?) Reports have it that the turtle enjoyed his snack.—DGP Elwood Camp, Elliottsburg.

Just Takes a Minute

LYCOMING COUNTY—Many sportsmen who would not think of littering while hunting often forget that their fired shotgun cases are also an unsightly aggravation to the landowner. Picking up one's own shotgun cases after a good day afield is a small but significant token of appreciation to your host, the landowner.—DGP Bill Hutson, Muncy.

Tidy

ELK COUNTY—George Swanson of Kersey came out of the house early to work in his garden, and a large bird flew from the garden onto the barn roof and deposited a dead rabbit. But George says the bird came back later and carried the rabbit away.—DGP Harold Harshbarger, Kersey.

For The Future

SNYDER COUNTY—We recently completed a one-day teacher's workshop on the environment at Walker Lake for the Mid-West School District. The workshop was organized and sponsored by the local Soil Conservation District. Hats off to Vance Wagner, executive assistant of the district, for a job well done. Vance spent many hours planning the field day for 150-plus teachers, who returned to their students with a better understanding of their rural surroundings.—DGP David Myers, Selinsgrove.

Get Along Fine

CUMBERLAND COUNTY—While speaking with one of the Allen Junior High School administrators, he told me that again, as in the past four or five years, mallard hens nest and hatch their young in an enclosed courtyard. One mother duck decided it was time to find water. Since the only way out is down through the school hallway and out the front door, all foot traffic was stopped in the hall. The hen was given exclusive right-of-way, and she led her brood out of the school's front entrance. When last seen they were heading for a nearby small stream.—DGP James Filkosky, Mechanicsburg.

Prince Valiant?

SOMERSET COUNTY—Bedford County groundhogs are now using armor—at least, according to Louis Contrillo of Central City. While hunting the neighboring county, Lou shot at a running groundhog with something shiny on its head. He was sure he'd hit it, but the groundhog just stopped and stood up. The second shot was placed lower. Louis found the groundhog's head completely covered with a bean can, with a bullet hole in its upper edge.—DGP Jim Burns, Central City.



By Ted Godshall

Six Deer Check Stations

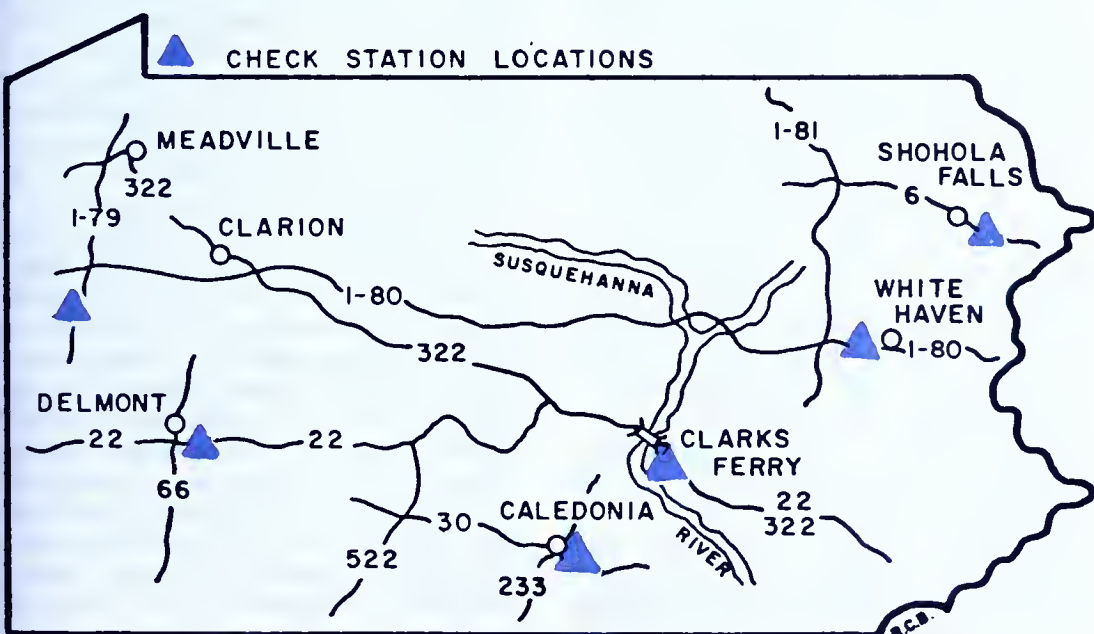
A GAIN THIS YEAR, Game Commission personnel will operate six deer check stations in Pennsylvania, according to Dale E. Sheffer, Chief of the Division of Game Management.

A large amount of information which is invaluable to the deer management program is collected at these stations. Therefore, it is hoped that every successful buck hunter who can arrange to stop at one of these stations will do so. The condition of the herd in different regions of the state, the condition of the range, the age structure of the herd and other information are revealed through the biologists' examination of deer at these stations. This data helps the

Commission set seasons to provide the most sport for the greatest number of hunters each year. The check stations will be in operation November 29 through December 1 at the locations shown on the map below.

The Northwest Station will be at the rest area of the southbound lane of I-79 just as you enter Lawrence County, and the Northeast Station at the rest area off of the eastbound lane of I-80 near White Haven. The Southwest Station will be located near Delmont along Rt. 22 east of its intersection with Rt. 66; the Southcentral Station along Rt. 30 about one mile east of the intersection of Rt. 233 near Caledonia Park in Adams County; the Southeast Station north of Harrisburg on Rts. 22 & 322 near the east end of the Clarks Ferry Bridge; and the Northeast Station in the Shohola Falls recreation area parking lot along Rt. 6.

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BANQUET HONORING FOREST-GAME cooperators, sponsored by Cameron County Federation of Sportsmen's Clubs, was attended by many.

A Big Thanks to Cooperators

THE Cameron County Federation of Sportsmen's Clubs can be counted on to do something all hunters in Pennsylvania should be doing—saying thanks to private landowners who make over a half-million acres available to the hunting public.

The landowners are the cooperators in the Game Commission's comparatively new Forest-Game program. Their holdings provide some of the finest deer hunting opportunities in the state, and some excellent habitat for bears, grouse, squirrels and turkeys.

Since creation of the Forest-Game program, enrolled cooperators have found fewer serious problems with hunters, while the sporting public is able to enjoy recreational opportunities on the privately owned tracts, some of which might have been closed to public hunting or restricted in access.

The wildlife harvest on Cooperative Forest-Game lands, while a bonanza for hunters, is also beneficial to the cooperators. It helps keep the deer herd under control, which means less wear and tear (browsing) on the range, to the benefit of the forests and ulti-

mately to the owners. It's a situation where everyone benefits.

In addition to whitetail population control, the Forest-Game program has been helpful to cooperators in terms of road repairs. Some roads on certain Forest-Game tracts are closed to vehicular traffic, either by gates or signs. These roads are closed because traffic will result in severe ruts, vehicles getting stuck in mud or snow, etc. Game Law officers enforce the vehicular traffic ban, making it possible for cooperators to save money on road maintenance and upkeep.

Comparatively few hunters expressed their gratitude to the landowners who made it possible for them to use the properties, so the Cameron County Federation of Sportsmen's Clubs took it upon themselves to publicly show their appreciation. They invited every cooperator in the state to a banquet and presented a plaque to each of the honored guests. Hundreds of sportsmen from the county also were on hand to show their appreciation. They speak eloquently for all Pennsylvania hunters.



KEVIN BAKER, 14, of Lewistown, got his hunting career off to a fast start by taking this 258-lb. bear last November while hunting with members of the Mountain Dale Hunting Camp. He then collected his first white-tailed buck in December. Good goin', Kevin!

Bear Hunters Aid Research

HOW DO BIOLOGISTS find out all the information they need to make proper management recommendations for Pennsylvania's black bear population?

Throughout the year, road kills provide some opportunities for gathering information, some is obtained by tagging and measuring captured nuisance bears, and more comes from normal research programs. But by far the most concentrated bundle of information comes from bears harvested during Pennsylvania's one-day season and processed at check stations across the state. All bears taken must be made available to a game officer within 24 hours. He will take information and samples. The metal tag, which will be placed through a tiny slit in the bear's ear, must remain there until the trophy is mounted or tanned.

Bear check stations will be set up at the six field division offices (listed on page 54 of the Hunting and Trapping Digest issued with each hunting license) and at satellite stations scat-

tered throughout bear range. Newspapers and other media will list the exact locations of these stations before the 1976 bear season.

All division offices and many of the satellite stations will have scales to weigh bears—information the Game Commission needs and that most hunters find interesting. Age is determined by counting growth rings in a thin section of the tiny premolar tooth removed at check stations. This laboratory process requires some time, and results will be mailed to hunters later. Bears also will be examined for ear tags and for numbers tattooed inside the lip or in the groin area. These would indicate that the bear had been previously captured by researchers.

Other information needed includes sex, markings (if any), location and time of kill, scars, behavior, number of other bears with the animal when taken, description of habitat, etc. Much crucial data on the reproductive history of females is determined by microscopic examination of the Y-shaped reproduc-

tive tract. Since this is difficult to locate, hunters are requested to bring female bears to stations before field-dressing them, which will be done by station personnel. If this is impractical, hunters are asked to bring entrails (other than heart, stomach and liver) along to stations in a plastic bag.

This information will provide clues to

our bears' range, habitat preferences, dispersion, population, tendencies to move to concentrations of food, etc., as well as helping to determine the age structure, size and condition of the bear population. The ultimate result of this study will be better management of Pennsylvania's valuable black bear population.

“Roothing” Dogs Illegal

The Game Commission cautions hunters against the practice of “roosting” dogs for raccoon or squirrel, or any other species of game which the practice may be extended to.

In “roosting” dogs for raccoon or squirrel, the dog runs on a road in front of a moving motor vehicle. When the dog strikes a track, the vehicle is parked and the game pursued.

Under provisions of the Game Law, it is unlawful to hunt for or pursue or follow after game of any kind from or with or through the use of a motor vehicle propelled by mechanical power, even though the intent is not to kill such game.

The law provides stiff penalties for “roosting” dogs, in addition to the possible loss of hunting license privileges.

Nosler Reloading Manual, Number One, edited by Bob Nosler, P.O. Box 688, Beaverton, OR 97005, 234 pp. \$5.95. Extensive loading data on the popular Nosler partition and solid base bullets. Includes external ballistic information to 500 yards, plus useful articles on the mechanics of handloading.

Letter . . .

Editor:

Since Beagle Clubs in Pennsylvania requested and received the knowledge and know-how from the Game Commission to develop and manage their grounds as rabbit habitat areas, the sport of beagling has doubled—both in beagle dog entries at field trials and the number of clubs participating.

Beagling is a fascinating, fast-growing, out-door family sport, and Pennsylvania, with its 90 or more clubs, leads the nation.

The Eastern Federation of Beagle Clubs; the Northeast Federation from the New England states, and the Mid-Dixie Federation from Maryland, Virginia and North Carolina, supply the East with a full schedule of Derby and Futurity events.

In 1958, the Eastern Federation had 25 Pennsylvania member clubs who ran 504

Derbies at their Qualifying trials; in 1976, the same clubs ran 988 entries, an increase of 96 percent. The recommendations and plans laid down by the Pennsylvania Game Commissions' biologists and land managers caught on, and clubs in neighboring states and others are following the same example. Participants at club events are in direct proportion to the number of rabbits on the club grounds (with more rabbits, more beagles get trained and entries increase).

The Eastern Federation has at present 104 member clubs from ten states, including 49 from Pennsylvania, and ran 3564 dogs at the 1976 events. This takes an enormous amount of rabbits. We want to thank the Pennsylvania Game Commission for making it all possible.

Stephen J. Allison

Secretary-Treasurer

Eastern Federation of Beagle Clubs, Inc.
Tamaqua, Pa.

The Mighty Chestnut Blight

By Robert A. Fala

DGP, Lycoming County

IT WAS THE most tragic event in the history of Penn's Woods. The American chestnut tree (*Castanea dentata*) would be destroyed not only in Pennsylvania but also throughout its native range in eastern North America.

The chestnut tree was common throughout Pennsylvania a century ago. It was highly valued for timber and as an ornamental species whose fruit when roasted (the chestnut, of course) provided a flavorful addition to the nation's food supply. The timber was prized for its rapid growth and durability. In fact, many "chestnut" barns built during the 1800s are still with us today. The wood chips of the chestnut, when soaked, provided the principal domestic source of tannins for the leather goods industry. For decades, the chestnut tree seemed to be too good to be true. Then, in 1904, the mighty chestnut blight made its appearance.

The chestnut blight was first noticed on this continent in 1904 in the New York Zoological Park. The disease is caused by a fungus, *Endothia parasitica*, a native of Asia. Authorities believe it was brought to America on some imported Japanese chestnut trees. Few suspected at that time that by about 1940 the American chestnut would be essentially eradicated from its entire range.

Spore Germinates

The fungus enters and infects the tree through any small wound in the bark. The "seed" of the fungus, called a spore, germinates and grows after entering this wound, destroying the bark tissue, which includes the life-giving cambium. Outward signs of the disease are cankers, or cancerous areas, on the bark. Millions of spores may be produced on each canker. These spores are minute and are spread to other trees primarily by the wind. Within a few years, the infected tree produces untold millions of spores before it fi-

nally succumbs. Death comes when the tree is successively girdled—the fungus literally chokes it to death. During the early years of the massive chestnut tree die-off, many states, including Pennsylvania, tried to control the spread of the dreaded disease.

The blight became such a problem in Pennsylvania that immediate action was required. In 1911, the state legislature authorized Governor John K. Tener to appoint a five-member commission to investigate the disease. The commission in turn employed scientists and field men to accomplish the task. To this end, \$275,000 was allotted (no small sum by 1911 standards) and the "Chestnut Tree Blight Commission" went to work.

The commission collected valuable data on the locations and symptoms of the disease. Many control measures were tested and tried. Most notable was the stripping and burning of the bark from the infected trees. Later appropriations were made, but the work was discontinued in 1913. By this time, the commission had learned that control of the disease was either impossible or too expensive to carry on.

To this day, many look back with sadness and disbelief at the loss of one of the most common trees in our state. The various oaks, in the same family as the chestnut, have largely replaced or filled in for the chestnut. The course of events proved just how destructive interference by man can be, even when it's unintentional, as in the case of the imported blight. A foreign or alien disease in a new habitat, unchecked by native enemies and resistances, can only spell disaster. As you might expect, the disease is of little or no importance in Asia.

Dutch elm disease is an example of another foreign fungus that threatens our native elms. Some other well-known imported pests include the gypsy moth, fire ant, house sparrow, European starling, monk parakeet, and

carp. Many of these species remind man of his past mistakes—intentional and unintentional. Today, our customs departments try to prevent introductions of foreign pests by forbidding and/or inspecting all foreign animals, birds, plants, etc., before they are brought into the country.

Although the picture painted is a bleak one, the American chestnut still survives as a small tree in many areas of Pennsylvania. In some cases viable fruit is being produced, and trees up to six inches in diameter are known. However, the tree is usually killed by the blight before it reaches this size.

These remnant chestnuts are actually “sprouts” from trees that have died. This prolific sprouting ability made the chestnut popular with old-time foresters who could cut the timber and have a new stand of trees growing almost overnight. These sprouts of the American chestnut are tough and they are a spark left in the fire for its survival as a species. Who knows? There may be—and probably are—resistant strains of our American chestnut tree out there right now. After fighting for survival for so many years, maybe the American chestnut will win its battle against the blight; at least it deserves to.

Headquarters 701

By Lowell E. Bittner

CIA, Southeast Division, PGC

BEING COLD is one of the drawbacks of deer hunting. Even with the clothing and equipment now available, many deer hunters still get uncomfortable after a few hours of hunting. But this discomfort is nothing compared to that suffered by a lost hunter forced to spend the night in the woods with no shelter or fire.

A few years ago, in northwestern Pennsylvania, a deer hunter became separated from his hunting party. The man, in his 70's, could not find his companions before nightfall. After some wandering, he crept under a hemlock tree for the little protection it offered. By morning, the cold had stiffened his muscles and dulled his thinking. He was convinced that no one was searching for him and the end was near. Then a sound, alien to the forest, began to get closer. When he finally recognized the sound as that of a helicopter, he found a bit of strength in himself and realized a search was on. The helicopter crew could not see the man beneath the hemlock and he did not have the strength to get to an opening. However, he was able to fire his rifle and this guided ground parties to his location. After a few days of recuperation, he showed no ill effects from his ordeal.

Cpl. Morris W. Demsko was a member of that helicopter crew, a unit of the Aviation Division, Pennsylvania State Police. Although the chopper was not directly involved in the actual rescue, Cpl. Demsko feels its sound gave the elderly hunter the needed incentive to help the search party find him.

Cpl. Demsko is now in charge of Headquarters 701, stationed in Reading. This is one of six such units stationed throughout the state. Troopers William C. Weidner, Jr., Wallace G. Royles and Leonard F. Lapato are the other members of Headquarters 701. Demsko learned to fly helicopters in civilian schools, while the others received their training in the military.

They fly a five-place, jet-powered Bell Ranger an average of 100 hours a month. The helicopter can transport two litters and is furnished with modern equipment for use in first aid, rescue operations and other details in addition to law enforcement duties. The men of Headquarters 701 take obvious pride in their work and equipment. Their ship was judged best helicopter at the 1975 Reading Air Show. One look at the spotless chopper shows why.

Naturally, State Police work has priority; but, as time permits, they assist other law enforcement agencies. One such agency is the Pennsylvania Game Commission. Game surveys, waterfowl counts, and water level surveys are all more easily accomplished by helicopter—one of the most versatile pieces of equipment ever developed. The saving in man-hours, to say nothing of increased accuracy, is amazing. In addition, the chopper has been used in surveys of oil spills, including that of the *Corinthos* at Marcus Hook in early 1975.

Enforcement More Effective

Enforcement of the Game Law has been made more effective by assistance from the men in the sky. Ground patrol units are guided into problem areas quickly by radio instructions from the air. For some minor violations, the helicopter's public address system is used to inform hunters they have transgressed the Game Law. This approach has always resulted in immediate correction of the situation.

Since being assigned to Reading in June, 1972, Headquarters 701 has helped find several lost persons. From their experiences they offer some suggestions in regard to assisting the injured and locating those who become lost.

The best advice is to prepare yourself well enough so getting lost is unlikely. Do not go into strange territory by yourself. Let someone know where you are going and when you expect to return. Dress properly and carry emergency equipment (matches, etc.). If a member of your party is overdue, notify the proper authorities as soon as



THIS IS the five-place Bell Ranger helicopter of Headquarters 701, Pennsylvania State Police.

possible. When you realize you are lost, move to an open area. If possible, build a signal fire (make smoke during daylight) and *stay put*. If you are found by a State Police helicopter, you will be given simple directions or requests for information over the P.A. system. These can be answered by simple hand or arm gestures. Follow instructions or directions exactly as given. Rescue and/or help will come that much sooner.

Although a relatively new tool of the Pennsylvania State Police, the helicopter, in the hands of dedicated personnel, has proved to be a most valuable asset in serving the people of Pennsylvania.

Information on River Otter Needed

The river otter is the subject of an ongoing statewide study being conducted by the Game Commission. The study's purpose is to determine whether it is feasible to re-establish this animal in those areas of the state where it formerly occurred. Any outdoorsman who has current, first-hand knowledge of the river otter in Pennsylvania—direct sightings, verifiable sign, etc.—is asked to send this information to Tom Eveland, Biology Dept., East Stroudsburg State College, East Stroudsburg, PA 18301.



HUNTER EDUCATION

By John C. Behel
PGC Hunter Education Coordinator

YWCA Sponsors Firearm Safety

THE ALTOONA Young Women's Christian Association and the Blair County Federation of Sportsmen recently co-sponsored a course in safe handling of firearms and personal defense for women.

The session was held at the Highland Hall Annex of the Court House in Hollidaysburg and was well received. The session was opened by Lantz Hoffman, a deputy game protector. An FBI film was presented by the Pennsylvania State Police, demonstrating how women may protect themselves from attack without use of a weapon.

Trooper Dennis Roland, firearms expert from the local State Police barracks, and Ronald Kelly, Altoona Police, also a firearms expert, discussed the safe handling of guns; special attention was given to revolvers, and to loading and unloading this type of firearm.

Dr. Alan S. Krug of State College, research director for the National Shooting Sports Foundation, dwelt on legal matters. He explained some of the laws which control ownership and use of guns, and noted that of the more than 24,000 gun control laws in the nation, few are presently enforced.

According to Dr. Krug, "Gun control is not effective in reducing crime." He said there are no statistics to show that gun control laws reduce crime in any way.

Deputy Game Protector Helmut Hornung, an active Blair County Hunter Education Instructor, presented instruction on Pennsylvania's HE Program. He also spoke on hunter training and the attitude of reverence toward hunting in Germany. Finally,

Blair County Game Protector Don Martin showed the film "A Question of Hunting" and conducted a question and answer session.

Don Elder, President of the Blair County Federation and chairman of the Southcentral Federation was instrumental in setting up the gun safety session with the YWCA. He also coordinated the course activities.

From the northwestern corner of Pennsylvania, Miss Jean Tickner, Executive Director of the Warren YWCA, writes of Pennsylvania's Hunter Education Program and its contribution to hunter safety. "Mr. David A. Muroski recently presented a hunter safety course at the Warren YWCA. We couldn't have hoped for a better instructor. Mr. Muroski was most cooperative in helping to arrange and publicize the course, which ran for four Saturdays with each session lasting four hours. Mr. Muroski held everyone's attention for the entire time. Sixty-four people, mostly young boys, were enrolled in the course, and 52 youngsters received their certification.

"The Warren YWCA sponsored this course with the desire to help make safer hunters out of the thousands who invade our surrounding woodlands each year. We are not opposed to the sportsmen and would like to support them in whatever ways we can.

"You are to be commended for the fine work that is being done in this area of the state in the line of public education. We feel most fortunate to have been able to obtain the services of David Muroski."

Outdoor Wildlife Learning

By Bill Einsig



Game, Parasites and School

Wild birds and mammals face diseases, infections, and ailments much as man does. Many kinds of invertebrates and microorganisms live as parasites on or in the bodies of animals, causing weakness and occasionally death. During the hunting season, biology and health teachers can use students to collect specimens from animals taken by licensed hunters, to be examined and studied as individual projects or as part of a class laboratory. Rabbits, pheasants, squirrels—all of the small and large game species—often are parasitized and are worthy of close examination.

One way to classify parasites is to consider their location on the animal body. Those on the outside are external (ecto-) parasites; such parasites include fleas, lice, ticks, mites, blowflies, louseflies, mosquitoes, and black flies. Most of these feed on the blood of the host but a few eat hair, feathers or skin. The bloodsuckers can also transmit diseases among animal populations and occasionally man.

A second class of parasites would be those that invade the body and feed on body fluids, tissues or digested food passing through the digestive tract. These are internal (endo-) parasites. Tapeworms, flukes, roundworms and a number of other worm-like parasites can be found at times in most organ systems. The lungs can be infested with parasites that clog and harden the tiny air sacs. Flukes up to an inch or two in length live as adults in the liver, where they produce eggs that pass through the bile duct to the digestive tract and to the outside in the feces. The bile duct and intestinal lining also serve as points of attachment for tapeworms and a number of roundworms. Here the parasites absorb their nutrition from the digesting food of the host animal. Other

worms invade the heart, brain and blood of many animals.

A third class is set apart by size rather than location. These are the parasites so small that they can be seen only with a microscope and, hence, could be called micro-parasites. Protozoans, bacteria, viruses and fungi are the major types of micro-parasites that invade the host's bloodstream, feeding on the blood components. One authority estimates that one-fourth to one-third of all wild birds are infected with blood parasites. In order to observe these minute freeloaders, "smears"—very thin layers of blood—must be examined microscopically, often with any of a number of stains that make the parasites more visible.

Obviously, no animal will have all of these parasites but most will have at least several. The most common will be fleas, ticks, and mites externally, and tapeworms and roundworms internally. It should also go without saying that some common sense precautions be observed while examining a carcass or entrails. Rubber gloves, proper technique through cleaning of hands and equipment, and safe disposal of the remains should be recommended and stressed.

If students are encouraged to bring in animals for examination, there should be some facility for keeping the specimen on ice or refrigerated until work on it is completed. Ideally, the animal should be freshly harvested. Depending on the lesson intended, the entire animal, carcass only or entrails only, need be provided. For most students a simple demonstration of dressing a pheasant or rabbit would be a new and extremely interesting experience. But be sure to provide for those students who have a tendency to become nauseated or offended at this type of activity. Most students are textbook-



oriented and such first-hand experience has a tendency to shock some.

Many teachers hesitate to work with a freshly killed animal, preferring "pickled" specimens. It is not permitted to kill specimens for the sole purpose of high school demonstrations and "research" projects. However, utilization of game animals taken legally is an opportunity that should be carefully considered in light of the many possibilities for animal study.

In addition to looking for parasites, think about making study skins, skull collections, or cleaned and mounted entire skeletons. Sometime during the hunting season, find a friend in the Home Ec Department and devote a class or two to rabbit stew, pot-roasted pheasant or deer roast. If you can't reach some students through their ears, maybe you can touch them through their stomachs!

Two general references will be helpful in examining animals for parasites. *Wildlife Management Techniques*, edited by Robert H. Giles and published by the Wildlife Society, is a classic manual of techniques for studying wildlife. An entire chapter is devoted to making post-mortem examinations, indicating what to look for and how to open the animal. Every library should have a copy. J. C. Welty's *The Life of Birds* provides a good introduction to bird parasites along with data from numerous related studies. When there is a

question about bird biology, this is the reference I reach for. The publisher is W. B. Saunders Co. of Philadelphia.

NRA Yearbook

The National Rifle Association's *Conservation Yearbook* is a collection of articles by knowledgeable researchers involved in the study of wildlife problems. Topics range from the plight of Alaska's barren-ground caribou to the predicament of the prairie chicken in Kansas. Both species share a common problem—survival in the face of shrinking habitat. Hunters will want to read articles on pheasant and white-tail deer management in Pennsylvania and across the nation. The hunter's dollar has provided the means to maintain healthy populations of these and other game animals and at the same time improve habitat for non-game species.

Teachers, civic groups, and sportsmen's clubs will find the appendices very useful. There is an extensive listing of organizations concerned with wildlife and conservation and a similar list of governmental agencies on both the national and state levels. These groups can supply a tremendous amount of information and aids for school and club programs and are eager to help. The best has been saved for last—there is an annotated list of 220 films dealing with wildlife, conservation and natural resources with names and addresses of 23 film distributors!

You can get your copy from the NRA, 1600 Rhode Island Avenue, NW, Washington, D.C., 20036.

Winter Activities?

It's often difficult for teachers to conduct interesting outdoor activities during the winter months when thermometers are low and snow covers the ground. If you have a few good ideas, pass them along to: OWL, Bill Einsig, 1912 Karyl Lane, York, Pa. 17404

Wild Turkey Stamp Available

The first annual wild turkey stamp has been introduced by the National Wild Turkey Federation, according to executive vice-president Tom Rodgers. Created by wildlife artist Russ Smiley, the stamp features the Florida wild turkey, *osceola*. All proceeds from the sale of stamps will go toward education, restoration and purchase of wild turkey habitat. Price is \$3. In addition to the limited stamp sale (50,000 printed), a signed and numbered edition of full-color prints (1,000 printed) is available for \$63, including stamp. Order from Wild Turkey Stamp, P.O. Box 467, Edgefield, SC 29824.

Sit and Wait?

(Part Two)

By Susan M. Pajak

DEEER ARE many-faceted animals. They are curious to a fault, alert beyond human comprehension and, at times, more comical than the old Keystone Cops. Deer are also swift, intense, strong, defensive, silent, acrobatic, and acutely instinctive. We are all well aware of these attributes.

But the one thing a deer is not, is *dumb*. In spite of any stories one may hear concerning this or that "dumb deer," a deer is not dumb.

A deer is the master of knowing how to hide from and/or elude almost anything that warrants avoiding. If need be, a deer can totally conceal itself in a shadow.

But of all its tricks, the cleverest, and indeed most useful, subterfuges a deer employs (in my observations, at least) are looking like a rock and mingling its tracks.

A deer's size is pretty conspicuous so it relies on other factors to protect itself when in dire straits. Concealment, or camouflage, is possible because of the gray-brown coat—but only if the deer is motionless.

Isn't it clever the way a deer will lie down, concealing all identifying marks in such a way that it looks just about like any other large rock in the area?

Have you ever stepped on one of these "rocks"? I have . . .

Theory One: Look for forms almost like rocks. Look piercingly under only a few fern fronds, by other rocks, by a fallen branch . . . most likely near the closest getaway trail. Search for that something that isn't supposed to be there.

Take it step by step, not yard by yard. How many hunters actually go out of their way to step on rocks when it's much easier just to walk on the ground?

Besides the explanations of safety in numbers and safe trail, I find it most curious the way three or four deer all tend to walk single file. Perhaps this keeps any one particular deer from being marked by a predator.

Mingling their tracks . . . surely there must be something to it, and I feel this is why we can't always pick up the right track of the deer we're after (assuming there are no blood spots).

The two observations offered this month (rocks and tracks), along with

IF PAJAK LOOKS puzzled here, it's because the deer she's trailing is a master of looking like a rock and mingling its tracks with others of its kind.



GIRLS, GUNS, & GAME...

last month's sermonette (look for the deer as soon as possible), will again, undoubtedly, initiate verbal jeers and jabs from some and derisive letters from others. But from deep within the sentences of these two articles I can only hope the process of constructional reasoning will prod a silent voice or two to come forth and add her, or his, thoughts about the reasons for the

deer's survival instincts and actions. Keep in mind that an arrow-struck deer usually does not react in the same way as when struck by a bullet.

When this voice is heard, and when, perhaps, a legitimate or useful search pattern evolves, then we will be better able to help the gentleman who wrote a most forlorn letter to say that to date he has "hit hard" with bow and arrow five deer and has yet to find any of them. He would like to know why . . .

* * *

Boots: Cotton socks next to the skin first will keep your feet much more comfortable. Then put on the woolies or synthetics. Also, should your feet feel like they froze a half-hour ago, try unlacing your boots a little. Boots laced up extra tight cut off blood circulation to the feet.

Available Publications

The following publications are available from the Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. Prices quoted include taxes, handling and postage.

GONE FOR THE DAY, by Ned Smith. All of the outstanding columns and artwork which appeared under this title in **GAME NEWS** during a four-year period. Delightful reading for everyone. 216 pp., \$2.50.

MAMMALS OF PENNSYLVANIA, by J. Kenneth Douth, Caroline A. Heppenstall and John E. Guilday. Natural history of all the mammals found in this state. Many illustrations and photos. 286 pp., \$2.50.

THE WHITE-TAILED DEER IN PENNSYLVANIA, by Stanley E. Forbes. Detailed information on all phases of the whitetail's life. 40 pp., 50 cents.

BIRD AND MAMMAL CHARTS, by Ned Smith. Set 1 (20" x 30") \$2.00. Winter birds, marsh and water birds, waterfowl, birds of prey. Set 2 (20" x 30") \$2.00. Mammals of farm and woodlot, mammals of the mountains, birds of the forest, birds of field and garden. Set 3 (11" x 14") \$2.25. All eight charts listed in Set 1 and Set 2. Individual charts not sold in either size.

Everyone Deserves One Good Knife (or Four)

By Les Rountree

MEDIEVAL KNIGHTS wouldn't think of putting on their chain armor without attaching a dirk to their girdle. For a frontiersman or Indian to leave camp without a belt knife was also unthinkable. There is plenty of evidence that a knife of some sort, chipped from stone or fashioned from an animal bone, was an indispensable part of the caveman's equipment. While our level of sophistication has increased a hundred-fold since prehistoric man lumbered about the landscape, the functional value of a good cutting edge has not diminished. Every citizen needs a serviceable knife.

Ask any dozen people what they consider the most useful knife and you'll get as many answers. The housewife, chef or kitchen helper needs the widest variety of all. Well-equipped hotels and restaurants understand this, and at these places you will see what is usually an excellent assortment of steel. French chef knives, bread slicing knives, boning knives, paring knives and long, thin meat slicing knives adorn the racks of posh cooking palaces. The well-equipped home kitchen should also contain a wide variety of useful blades, but sadly this area of equipment is usually ignored. Even if the housewife has a workable assortment of kitchen cutlery, it's usually in a terrible state of repair; mostly, the edges are dull.

On the other hand, a number of practicing outdoorsmen have more high-quality hunting, filleting and

pocket knives than they know what to do with. They just have 'em because they're nice to have. Come to think of it, I fall in that category. I excuse my over-extensive knife collection by telling myself that since I write about such things I should have a lot of them. But the fact is, I don't really need all those knives. I could probably get by with a half-dozen or less. So could the housewife if the knife selections were made wisely. After many years of knife "acquiring" (I can't really call it collecting since I have not followed any particular pattern of acquisition) I'm firmly convinced that the good "outdoor" knives are also equally at home in the kitchen. Put simply, a good knife is a useful knife wherever one happens to be.

Paring Knives

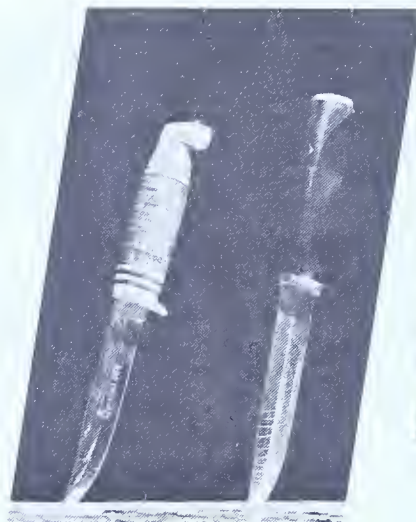
Let's take paring knives, for example: the wooden-handled, dime store specials that most homes are saddled with are usually made from extremely soft or hard steel. The soft ones won't hold an edge longer than it takes to slice two tomatoes and the hard stainless jobs are too difficult to sharpen easily. Not all stainless formulas are flint-hard but most of them are. Those clever little patented roller devices that pop up in American kitchens will put an edge (a rough one) on a soft blade with two or three strokes. A hard stainless blade will actually cut into the sharpener. Moral here is, if you're going to buy "el cheapo," buy the soft one. It'll sharpen quicker.

In addition to questionable steel, the handles on bargain basement knives are held together with flattened pins made from soft metal that will guarantee a life expectancy of no more than six months. We've all seen the horrible example of repaired kitchen knives. Tape wrapped

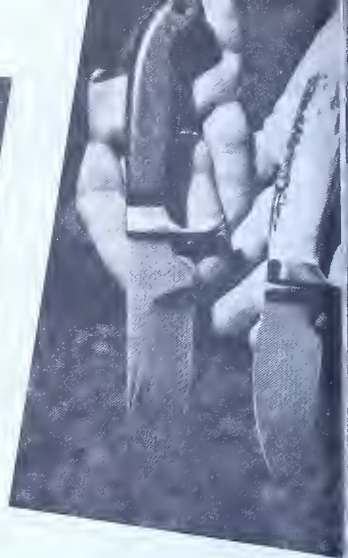




THIS IS Buck's fillet knife, but Rountree's family finds it useful as an all-purpose model for camp or kitchen.



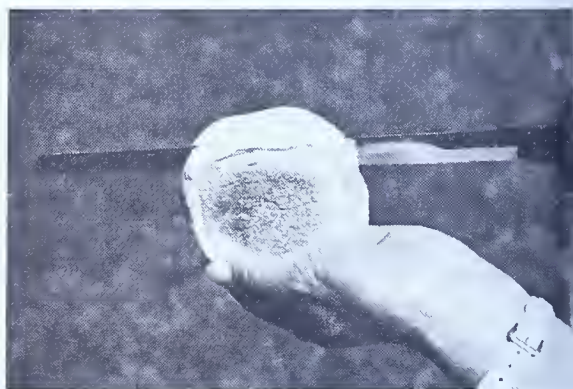
THESE HUNTING KNIVES by Queen and Normark, above left, are general purpose models that handle most chores. Right, Olsen and Main models show blades shaped for more specialized purposes.



FILLET KNIFE'S thin blade is also useful for slicing vegetables. Knives should be sharp so they cut instead of tearing. A proper edge makes them a pleasure to use.



ARKANSAS STONE is Rountree's favorite sharpening unit. Once a proper edge is put on, a few swipes from time to time will keep blade in good shape.



SERRATED EDGE makes cutting fresh bread and rolls easy. The wig-wag blades break the friction applied by the clinging bread, permit the slicing edges to slide through easily.

round the handle . . . a strand of copper wire holding the whole mess together . . . or even worse, no handle at all. Such junk is not only a pain to use but is actually dangerous. Combine a dull knife with a broken handle or no handle at all, and sliced fingers become commonplace.

I've heard the king of the household say many times, "Are you kidding? Sharpen a knife for my wife . . . why, she'd cut her hand off the first time she picked it up!" Nonsense! A dull knife is ten times more dangerous than a sharp one. The dull knife cuts only because a great deal of pressure is exerted. A sharp knife cuts because it's sharp. Just let the meal cooker in your family use a *really* sharp knife for a day or so and the junk equipment will go into the trash can.

There are a dozen excellent paring knives on the market today, with one of the best being the Gerber Pixie. This old-line knife company has simply scaled down its larger hunting blades and come up with a dandy. The rough-molded metal handle won't slip when your hands become wet or sticky and the stainless blade is just right for reasonably fast sharpening. The edge will hold for two weeks of hard kitchen work.

Shop for knives in a cutlery store or a sporting goods or department store that has a good knife department. The blades you see stuck up on a card in the corner grocery store or gasoline station are frequently worth less than the material used in them. Expect to pay \$5 or more for a quality paring knife. They just don't come much cheaper than that. A paring knife is the most used tool in the kitchen but it should be used *only* for its intended purpose—paring. Cutting linoleum, trimming shrubbery or cutting up chickens is asking too much of the tiny blade. A great buy in the paring knife department isn't a paring knife at all. It's Normark's trout fillet knife. The handle may be a bit too long for small-handed people, but I find it just right. And the factory edge is razor sharp. Treat it kindly, sharpen it once a month and keep it in its leather case and it'll last a lifetime.

A big, thick-bladed French chef's

knife is another must in the kitchen. Buy one with plenty of steel in the back side so you can power through a chicken carcass or split a goose without breaking your arm. Too thin a blade will break when muscle is applied. A 12-inch blade will cover most situations but a 14-incher is probably a better choice. For sheer ease of operation, the big French knife is also perfect for dicing up vegetables for soup, stews or other concoctions. The artful, chop-chop-chop motion that French and Japanese cooks are famous for could not be done without a sharp chef's knife. For this kind of work, however, you'll need a cutting board in your kitchen. It doesn't have to be a fancy laminated one. A block of oak, maple or other hardwood will do the job nicely. Incidentally, a good knife should never be forced to cut on anything other than wood. Dicing or cutting through to metal, porcelain sink bottoms or Formica is a no-no.

Serrated Edge

While an even-edged knife will cut bread and other soft items when it's really sharp, nothing does this job as well as a bread knife with serrated edge. These wig-wag blades break the friction applied to a blade by the clinging edges of fresh bread and allow the steel to slide back and forth with much less pressure. Buy a 12-inch bread knife and don't use it for another thing. Ann has a bread knife in a wooden rack behind the sink and if anyone even thinks about using that knife for a miscellaneous chore they are screamed at!

The serrated edge is also a good tool for slicing such things as rare roast beef or baked ham. This sort of blade will cut off neat even slices with perfection if a sawing motion is used. But that's good advice for cutting anything. Never use a sharp knife as a cleaver. It cuts best when moved forward or backward through meat, bread, vegetables or cardboard.

The only other knife that the ordinary kitchen requires is a boning knife. This is a thin, tapered blade with an ample handle that is used primarily for trimming meat from chicken, turkey or goose carcasses or getting that sweet

meat that is close to the bone on venison or beef roasts. When making soups or stews, these morsals are often in hard-to-get-at places and a stiff, sharp blade is needed. A paring knife is too fragile for such work and the big chef's knife too cumbersome.

Butcher and restaurant supply shops sell a wide variety of boning knife sizes and that's a good place to shop. If you want to pay \$18 for a dandy, take a look at the Buck Fisherman's Fillet knife. Al Buck may hate me for saying this, but this knife is a bit too stiff for my style of filleting fish. But it is an ideal boning knife and a dandy deer and all-purpose camp knife as well. The steel is a mite hard, but when it's sharpened it stays sharp for a long time . . . if you don't use it for tree pruning.

The "Must" Knives

That takes care of the "must" knives for a well-equipped kitchen. To recap: paring knife, French chef's knife, slicer and boning knife. Such groupings are sold by a number of quality knife-makers as sets. They'll cost from \$25 to \$75 depending on handles and boxing. Or, you can buy them separately and save a few dollars. There is an advantage in buying a complete set; the similar handles will have the same general "feel"—a point to consider.

For hunting and general camp use, the well-equipped outdoorsman ought to have four knives. He needs: 1) a compact pocketknife, kept with him all the time for sundry whittling; 2) a 5-inch field-dressing knife, used only for that purpose; 3) a heavy-bladed knife of rugged design for lopping off bird heads and rabbit feet and rough bone cutting work; 4) a wide-bladed skinning knife, used only for skinning. Some knives can cover all of these situations if the blade is frequently sharpened and four knives sound like too much to bother with. The skinning knife and dressing knife can be combined into one, but a rough and ready bone cutter or utility knife should always be around to do the rugged chores.

For backpacking, canoeing or other

lightweight trips, a large folding knife is okay . . . if it has a locking blade. Heavy folding knives lacking this feature have been the cause of many abbreviated digits. For hiking, I much prefer a lightweight belt knife. It's there to grab when I want it and doesn't wear a hole in pocket or pack.

To touch up a blade when the edge has been only slightly dulled, the ceramic rods and stones sold by Case Cutlery and others work just fine. When a knife is beginning to get really dull, hard and then soft Arkansas stones are called for. Hiram A. Smith Co., of Hot Springs, Ark., makes the best ones I know of and has been doing so for four generations. The deposits of an oilstone called novaculite that exists around Hot Springs must have been created with the knife blade in mind. Nothing I've found works better.

When a knife blade becomes nicked or damaged, the old-fashioned sand wheels that used to absorb the elements in country backyards are unbeatable. Now collector's items (the old ones), these wheels will tune up a dull blade to perfection. It takes a little time to sit there and hold the blade on the spinning wheel, ideally run by foot power (or with the help of a neighbor kid turning the crank) . . . but it's fun, too. In some rural hardware stores, these sand wheels—new ones—are still sold. If you find one, let me know. I have to drive 20 miles to a friend's house to use one.

For the final touch, if you're looking for the ultimate in sharpness, strop the sharpened blade on a strap of smooth steer hide. These things used to hang on every barber chair in the nation until safety and electric razors captured the shaving business. If you want one, ask your neighborhood barber where to buy it. He'll also show you how to use it.

For cleaning a deer, sectioning a grapefruit, or dicing celery, nothing makes the job easier than a quality knife, properly sharpened. Investing in good cutlery pays off. Good blades last a lifetime and more.

ANSWERS TO ANTI-ANTICS

By Keith C. Schuyler

Photos by the Author

“WHAT CAN I do to help?” How often we hear this question—frequently a half-hearted query from someone who might be interested in a problem but who lacks the enthusiasm or perseverance to do much more than talk about it. But others are doing something to help. In view of the ballooning anti-hunting crisis, hunters as a group had better decide what they can do to help, or risk the loss of their hunting privileges.

Those who stand to lose first and most are bow hunters.

The reason for this is simple. Bow hunters came late on the contemporary hunting scene, and they are in a minority. Bow hunting is the least understood of the hunting sports, and consequently bow hunters sit smack in the center of the target for the misinformed, the uninformed, and the conscientious objectors.

Bow hunters, frequently gun hunters in season, represent a growing segment of the hunting population. There are today well in excess of one million of us across the country who have much at stake. So, although we still represent a minority, it is a substantial minority with plenty of potential clout if we pull together to back up our more abundant brothers, some 16 million gun hunters.

As a beginning, it behooves each bow hunter to keep his best foot forward and do absolutely nothing to cast unfavorable reflections upon this sport. Fortunately, continuing education through the outdoor media has brought considerable improvement to the image of the bow hunter. All of the major magazines and most newspapers take at least a tolerant attitude toward the sport. Television, while leaning toward anti-hunting for the most part, has not singled out the archer as a special target.

Money talks, and it also acts. Some of the more outstanding efforts to dis-



HENRY FULMER checks velocity of arrows at bow testing session. Hunters get useful information and pro-hunting organizations get contributions—a great setup.

credit hunters include the injunction against hunting in the Great Swamp National Wildlife Refuge in New Jersey. The attempt to foul up waterfowl seasons last year, and the campaign to prevent dove hunting in Ohio, were obvious ploys that were successfully combatted in the courts. Only the Great Swamp controversy, where bow hunting was directly involved, has threatened bow hunting per se. But, unless we lend a hand, gun hunters

may not be as concerned if bow hunting should be singled out for attack.

The opposition is formidable. Some 25 organizations with full-time representatives in Washington, D.C. seek legislative help against hunting. The five major outfits, Defenders of Wildlife, Fund For Animals, Humane Society of the United States, Animal Protection Institute, and Friends of Animals, represent a membership of approximately 250,000 individuals with available revenue of something over \$14 million.

The Pro-Hunters

On the other side, there is the Texas-based Hunter's Legal Defense Fund, Pennsylvania's National Society for Conservation and Animal Protection (NASCAP), American Archery Council, National Field Archery Association Bow Hunter Defense Fund, National Rifle Association, Saunders Bow Hunters Who Care in Nebraska, and the Michigan Fred Bear Sports Club.

The biggest problem facing all of the organizations which are pledged to foster and to protect hunting is simply CASH! And, that is where bow hunters individually and collectively can help. The individual effort is confined to writing a check for the most part, and this is a good move. However, as there is strength in numbers, there is more money by the numbers. With hundreds of archery clubs scattered around the country, of which ninety are located right here in Pennsylvania, there is a strong potential for raising funds in substantial amounts. Everyone would prefer spending such funds on game propagation, habitat restoration, and the many other wildlife needs that exist. However, if something isn't done to combat the opposition in their own manner, game will eventually be confined to parks and zoos.

If each hunter would contribute only one dollar, there would be enough money to somewhat equalize the current financial imbalance between the anti's and the pro-hunting forces. This approach has been tried with some success, but there are always those willing to take a free ride to all the benefits available. Others are simply neglectful.

But, if you give people something for their money directly, they are usually more willing to part with it.

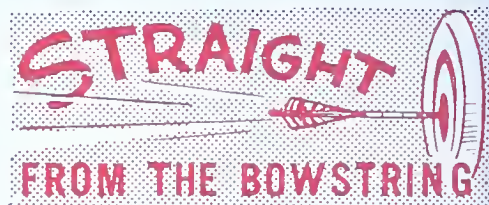
An example of what can be done is the program conducted by Sherwood Schoch and his associates. At the Forks-ville Festival last year, and elsewhere, a participating program to help archers better understand the capability of their bows has been conducted.

First, bows are weighed to determine their weight at the owner's particular draw. The arrow to be shot, with all its components (head and fletching), is also weighed. Size is noted for aluminum shafts, and the number if shafts are fiberglass. Wood is listed by diameter, if known. The arrow is then shot three times over a chronograph to determine velocity in feet per second, which gives a good idea of its performance factor and penetration power.

For this privilege, the archer pays \$1. About \$175 was collected at Forks-ville last year, and this money was turned over to Clayton Sherk for the National Archery Association's United States' Team Travel Fund. However, at the Bowhunters National in Clinton, Indiana, last May, \$181 was collected and this amount was sent to the National Field Archery Bow Hunters Defense Fund. By the time this gets into print considerably more money will have been raised for one or the other of the bowhunter defense funds.

In my neck of the woods, the Piercing Arrow Bowhunters Club decided to do something on its own. Since the club is primarily a hunting organization, facilities of Berwick Archery Club were obtained for the purpose of holding a benefit shoot for bow hunters' defense.

A substantial amount of money was raised in a fun-filled afternoon which brought bow hunters in from a wide area. Aside from the profit collected on refreshments, many of which were donated by club members, shooter.





THE RUNNING RABBIT SHOOT attracts many competitors at Piercing Arrows' benefit tournament. All archers like this kind of target.

paid a registration fee to shoot at 14 simulated deer targets.

In addition, there were some side events designed simply for the purpose of raising money. Most popular of these was a running rabbit target rigged upon a clothesline and pulley arrangement so that the rabbit could be manipulated by a hidden operator. Among the trophies and prizes made available were home-baked cakes. Most unusual was one on which the name of the club was superimposed upon a deer's head in icing.

The only objection from this quarter to the fund-raising activity across the country has been use of the word "defense." It is the contention here that bow hunting, or any other phase of hunting, needs no defense. However, this was a natural when the effort was first made to combat attacks against hunting by the aforementioned and other organizations. It should be a lesson to all of us that there should be a continuing effort to raise funds to *promote* the hunting sports. It has been too long taken for granted as a natural birthright in this country, since many of our forefathers had to help sustain themselves through the use of firearms.

Since hunting activities have been largely responsible for the preservation and propagation of our game species, we simply assumed that the public was aware of and appreciated these activ-

ities. All segments of the population benefit from them. It was not until certain individuals forced tears to uninformed eyes in order to put money into their own pockets, using protection of wildlife as an excuse, that we realized we were in trouble.

Fortunately, organized watchdogs across the country are now prepared to go on the offense. A good example of this was when NASCAP involved itself in a minor, yet important, suit against a newspaper that ran a sensational but false report of the first Great Swamp hunt held in several years. The organization settled for a printed retraction which the newspaper was happy to publish.

When a unanimous decision was handed down by a three-judge panel of the Court of Appeals, the arguments of seven anti-hunting groups to close down waterfowl seasons on the Atlantic flyway last year were denied. The organizations' attorneys were there for the original case in federal court and the subsequent appeal. Last year NASCAP stepped in to provide assistance to the New Jersey sportsmen who found themselves faced with an imminent township resolution which would have made it illegal to discharge firearms within a thousand yards of any building. There is word from the underground that, perhaps by the time you



NAOMI BECK, left, and Terry Beck display the trophies they collected during the program. Archery continues to grow in popularity with women, many of whom excel at all phases of the sport.

read this, New Jersey will have made a move against bow hunters. NASCAP is waiting in the wings.

Although the emphasis here is on subjects confined primarily to Pennsylvania, the attacks against hunting are important to each hunter regardless of where he or she is located. An example of the ecumenical emphasis being placed upon the problem was illustrated when the 17,000-member Fred Bear Sports Club donated \$500 to the 2,000-member NASCAP organization in this state. This recognized the expertise of those who operate under the executive directorship of Dr. Lew Batt, of Bethlehem. It also illustrates that no strings can be placed on any funds, since what affects any segment of the hunting scene affects the rest. California is a hotbed of anti-bowhunting activity, and any successes by the anti groups there will serve as a basis for a continued effort across the nation. Ohio has problems. Wherever the foes of hunting can find a foothold, they will combine their efforts to use this as a springboard to other parts of the nation.

If ever there was a time that outdoor sportsmen should stick together, this is

it. And, rather than trying to avoid involvement, anyone deserving the name of sportsman should look for opportunities to donate both dollars and personal efforts to protect his heritage.

As an example of the movement against hunting, while writing this a letter came in my mail from Animal Protection Institute of America, an organization which spent one-third of its gross revenue of \$639,331 in one year just for advertising such as this. The "institute" asked for contributions from \$10 to \$100, or other \$—. Accompanying literature boldly accuses, "We continue to inculcate our male offspring with a macho-glory of hunting, still clinging to the illusion that the contest is equal."

If you are of another mind, here are friends of hunters and hunting:

National Society for Conservation of Animal Protection (NASCAP) P.O. Box 3129, Bethlehem, PA 18017, Executive Director Dr. Lew Batt.

American Archery Council, which has a bow hunter defense program A.A.C., c/o Sporting Goods Manufacturers Association, 705 Merchandise Mart, Chicago, IL 60654.

National Field Archery Association Route 2, Box 514, Redlands, CA 92373 which raised \$15,589.90, in 1975, of which \$10,091.63 was spent on promotion through schools and public and information and which included a \$1,000 contribution to NASCAP. Ervin W. Belt, Executive Secretary.

Fred Bear Sports Club, R.R. 1, Grayling, MI 49738.

Bowhunters Who Care, program of Saunders Archery Company, Columbus, NB 68601. Charles "Chuck" Saunders.

Hunters Legal Defense Fund, Petroleum Center, Suite D-211, San Antonio, TX 78209. Total income approaching \$35,000, with two \$2,000 contributions for legal fees on Great Swamp National Wildlife litigation and 1975-1976 Migratory Waterfowl Act defense. Bob Holleron

National Rifle Association, Legislative Action Committee, 1600 Rhode Island Avenue, N.W., Washington, D.C. 20036, ready to act in all areas of hunting promotion and defense. Harlan B. Carter

Contrary to a growing philosophy, mounting the rifle scope properly requires a lot more than . . .



COLLIMATOR INSERTED IN MUZZLE has grid which is visible through scope; this normally allows adjusting scope reticle to put first shot reasonably near point of aim, which saves time and ammunition when zeroing in.

Just a Couple of Screwdrivers

By Don Lewis

Photos by Helen Lewis

"HEY, BUDDY, hold on a minute, I need some help." The loud greeting cut through the frosty air as I walked from my vehicle. It startled me, since I was back a good ways in an abandoned stripmine and thought I was alone. It took ten seconds to locate the caller, who was working his way down a fairly steep spoil pile.

"I'm sure glad you came along," he nearly shouted as he stuck out his hand. "I thought I had a long walk until I heard the purr of an engine."

"I'm still at loss," I answered. "First, you nearly scared the wits out of me, and now you're talking in circles about being glad to see me. You said something about needing help, but the way you came down that mountain of dirt indicates you're in good condition."

"I'm sorry you're shook up, but to get to the heart of the matter, I thought you might have a screwdriver in your vehicle I could use to remove this blasted scope. I missed two standing shots so far today, and enough is enough."

"What did the scope have to do with your misses?" I asked.

"It's defective, that's all," he fired back. "I've been a buckhorn sight man for thirty years, but my sons talked me into a scope. Fact is, they were so convincing I needed a change, I bought a new Remington 700 30-06 along with the scope. But a fellow's not too smart to give up iron sights."

I saw his face tint a little when he took a long look at the Interarms Mark X 25-06 I was carrying complete with a

Mauser 3-9x variable. I didn't let on I noticed his embarrassment, but his caustic comment bit into me.

"On the merits of the scope I can't agree with you, but what could be wrong with your outfit that would cause you to miss two standing shots? If your rifle was that far off, you should have noticed it when you sighted in. As far as



BUEHLER TWO-PIECE mount holds scope low on this Weatherby rifle and provides plenty of clearance for loading when action is open. Adjustable for windage.

I'm concerned, you're using a topnotch outfit."

"I thought that when I bought it, but I missed the boat somewhere."

"That 'somewhere' could be the answer," I cut in before he could continue. "If it were mine, I'd double check to see if the scope is mounted properly."

"How could a scope be mounted improperly?" He put a lot of emphasis on the last word. "My neighbor mounted it. When I suggested going to a gunsmith, he told me it took just a couple of screwdrivers and some shellac. The truth is, I bought a bad scope."

As we talked, I examined his rifle and scope. I learned not one shot had been fired to zero it in, and the rifle had been bore sighted on a chimney. A quick check revealed all the screws were tight, but things began to fall in place when the windage cap was removed. The metering adjustment was screwed in so hard that I couldn't budge it with a coin. The answer was clear; either the adjustment had been damaged or the scope was under stress.

"Well, have you solved my problem?" he asked impatiently. "Remember, all I wanted was a screwdriver."

As he continued to pour out his wrath on the scope, my suspicions were confirmed when I located a thick shim under one side of the rear base. Now I knew for sure there was tension on the scope itself, and there was also a good chance the scope was not even in alignment with the bore. He laughed when I told him about the stress factor, and got angry when I suggested an adjustable mount for the 30-06.

The story has a happy ending. A few evenings later, the scope was re-mounted on an adjustable base with both metering wheels set at the halfway mark. The rifle wasn't drilled improperly, but the bases used on the first mount job were not even close to being in alignment. With the new adjustable base, the windage problem was corrected without touching the internal windage wheel. The best part was the 1 $\frac{3}{4}$ " groups shot with the same scope this man had so soundly condemned.

During the years I ran a sight-in shop, I was faced with similar shooting problems on a daily basis. In a relatively few cases, pitted barrels or defective scopes caused the problems, but the majority of times a rifle failed to live up to expectations hinged on some aspect of scope mounting. I'm certain this may be hard to digest, but I stand on pretty firm ground while making that accusation. Proper scope mounting is not just putting in the screws with shellac; it takes knowledge along with top-grade material for top results. Experience and study are the best teachers, and usually the relative or neighbor with a couple of screwdrivers will really miss the boat somewhere.

The main problem with the scope mentioned in the opening of this article was the inexpensive mounts used. The cradles or bottom halves were not "line bored," and the scope tube couldn't rest evenly in them. This put the scope



on an angle and out of alignment with the bore. Turning the windage metering wheel to its maximum limit failed to give the needed adjustment, and the scope was removed and a shim added under one side of the rear base to swing the scope back in alignment. Forcing the scope back on the rear base put it under stress or tension.

Before I removed the scope from the 30-06, I drew a straight pencil line along the top of the scope and over the rear clamp ring. When I loosened the rear clamp screws, the scope actually unwound to the extent that the line on the scope was no longer in alignment with the one on the rear clamp. Stress occurred when the rear clamp ring was forced on the rear base without loosening the clamp screws to allow the clamp to "seat" on the new angle of the base. (Installing the shim changed the angle of the base on the receiver, but the rear clamp ring on the scope was not freed, so to speak, to allow it to adjust to the change in the base angle.

Alternate Tightening

Scope clamp rings that have screws on just one side can cause stress or tension when one ring is tightened completely before the other one is touched. The scope now is locked into position, and if the second clamp is screwed down tighter than the first, the scope has no alternative but to twist. Both clamp rings should be brought down evenly and with the same pressure. In the tightening process on all scope rings, I alternate between the clamps, making sure each clamp is brought down gently and evenly.

The screw tightening process seems to carry some mystery about it that generates the philosophy that every screw has to be cranked in with vicious power, much like tightening down the heads on a diesel engine. Normally, it's a two-step affair. The base screws are handled in one manner and the ring clamp screws in a separate way. I'm not trying to make a big deal out of this, but a more practical approach is needed.

All base screws should be tightened evenly with a 10-inch screwdriver, making certain its blade fits the screw's slot to its total depth. The screws

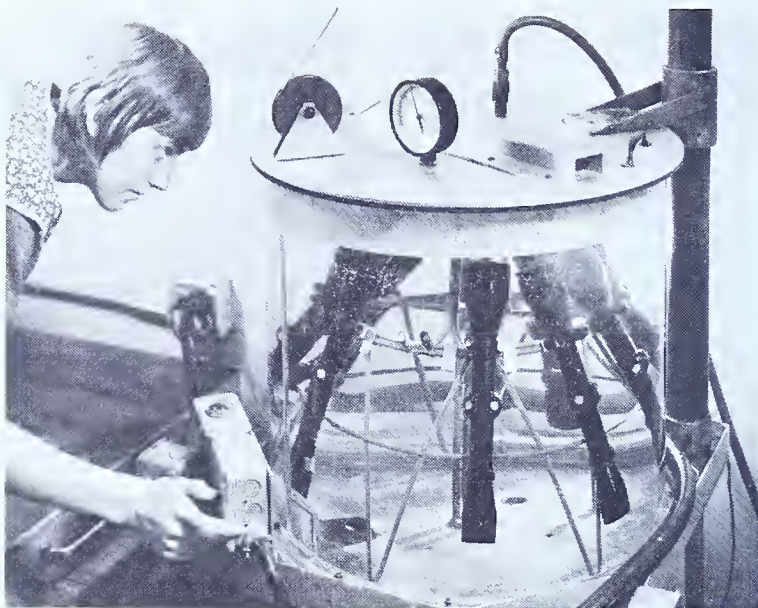


REDFIELD SCOPE and mount on remodeled 1903 Springfield. One-piece base adds strength, makes alignment of rings easy. This mount also has windage adjustment.

should be gone over a couple of times to assure that each is as tight as possible. Now the screws should be seated and retightened. This is accomplished by hitting the screwdriver a sharp blow with a normal size hammer. This quick jar loosens the screw, and it can be pulled down more. Before proceeding to the next screw, retighten the remaining screws by hand, and then repeat the seating process. When done properly, there's no danger of the base or bases coming loose.

Using a locking agent such as shellac, nail polish or a commercial type product is purely a personal matter. There are some advantages where the threads are worn or improperly cut, but there's also the danger any additive will disintegrate in time, and the screws will lose their grip. Cleaning and drying the screws and holes with high air pressure will guarantee a metal-to-metal contact that will stay permanent for years.

The clamp or ring screws are entirely different, and the long screwdriver and super strength are not needed. It's already been established that the paramount factor is to bring the clamps down equally, being extremely careful that one screw is not tighter than the rest. A shorter screwdriver is sufficient, and again it's important that the blade fits the screw slot. Going all out for sheer strength on the clamp screws can



LEUPOLD SCOPES being tested for leaks before shipment. This make has long been known for its reliability under bad weather conditions—a valuable characteristic for hunters.

cause problems of thread stripping or screw breakage.

Additives are not needed on the clamp screws. Unlike the base, which sits firmly on the receiver, scope clamps do not come completely together and are more or less under resistance. This resistance helps hold the screws, and adding a locking agent only adds to the misery of removing them later. Likewise, putting double-back tape under the scope rings on Magnum setups can cause more problems than it will prevent. On some jobs I did this way for Cape buffalo hunters, only a few scopes stayed in place. Most slid forward, and I went back to the metal-to-metal contact. On the large Magnum rifles, only the highest quality mounts setups should be used, but it's surprising how many times a powerful rifle and high quality scope will be joined together with bargain-priced mounts.

Remove Grease

Cleanliness in scope mounting is important—vastly more important than even many gunsmiths think. Grease and oils should be removed from the mounts, and the rifle's receiver should be checked for drilling or tapping burrs and for dried additives left from a pre-

vious mounting job. Axle slots in base should be cleaned, along with drying and cleaning all screws and holes. The scope should be wiped free of grease and dirt and all stickers removed that could interfere with the mounting.

I have a genuine dislike for shims of any type, but admit I've used hundred when time was not available to do the job properly. The shim normally leaves a gap under the base, preventing from resting squarely on the receiver. This weakens the setup, pure and simple. Two alternatives exist: making a tapered shim (which still leaves a lot to be desired), or milling the opposite side of the base, which lowers it on that side and gives the same result as installing a shim.

This gets into some touchy technical aspects, but it proves beyond a doubt that scope mounting is not as easy as the instructions make it appear. It's common practice to suggest going a ways to adjustable mounts to correct the windage problem. I can't completely disagree with that, but the adjustable mount does not offer as much strength as the solid type. I don't want to make an issue of this, for only a few Magnum cartridges are involved and are more secure in the high quality non-adjustable mounts. The average

chuck or big game rifle's recoil will not have any effect on the mount that offers a windage adjustment.

In case my point might have been missed, and a feeling exists I'm not an admirer of the adjustable mount, allow me to bring to light some of the plus features they offer. Rifles that are not drilled to install a mount—and thus the scope—in direct alignment with the bore, and receivers that do not have the same radius front and rear, almost always cause problems. These are the most common problems encountered, and also the easiest to solve with the adjustable mount. Not all scopes have the same amount of adjustments, and with the adjustable mount, point of impact can be brought close to the target and then fine tuned with the scope's metering wheels.

The quick detachable, flip and swing mount setups are controversial, and the high "see through" type adds fuel. This type of mount is designed primarily to allow the use of iron sights as a back-up feature if the scope fails. I don't know which brand hit the market first, but shortly after the close of World War II, I used the Echo, G & H, Bausch & Lomb and the Pachmayr Lo-Swing. Several years back, I used the beautifully machined Paul Jaeger quick detachable on a Model 70 Winchester.

I have no desire to discredit this type of mount, and for many hunters, the detachable, flip or swing would be the wisest choice. My own feelings run along the line that a scope should be mounted as low and as securely as possible, and this would be doubly true for use with Magnum cartridges. I do not worry about scope failure, but I have compassion for the hunter who



VARIOUS MAKERS NOW supply raised mount rings which permit shooter to look beneath scope and use iron sights if scope is inoperative—an approach that dates back to the '30s.

doesn't share my complete faith in the telescopic sight.

Mounting the rifle scope is as personal as being fitted with eyeglasses. Everything about it is important. From squaring the reticle to proper eye relief and eye focus, it has to be done for the person using that scope. I want to reiterate—there is no general way to mount a scope. When it's all said and done, the scope becomes an integral part of the shooter's optical system, and this alone shows why it has to be a personalized affair. Improperly done, it will have a detrimental effect on the shooter psychologically and in the field.

I have touched on just a few of the complexities in scope mounting, and there are more. Hopefully, more concern will be given to the proper installation of the rifle scope. My main desire is to bring to light the fact that proper scope mounting requires a lot more than just a couple of screwdrivers and a bottle of shellac.

Built-In Carrier

The "pouch" of the pelican is attached to the undersurface of the long, straight bill and is used as a sort of "net" for catching fish.

Soft, Fine, Dense, Etc.

The fur of a sea otter is very soft and fine. When the tips of the dense fur get wet, they cling together in a layer that repels the water and gives the animal insulation and buoyancy.

In the wind

toni williams

information writer



A better outlook for wildlife results from a recent agreement of the Fish and Wildlife Service and the Soil Conservation Service to cooperate in developing guidelines for stream channel alterations. Controversy and lawsuits have surrounded channel modification projects in recent years, and the input from wildlife agencies should help to curb some of the bad effects of channelization on wildlife habitat.

A study to examine the feasibility of desulfurizing coal by microwave radiation has been funded by the EPA. General Electric will conduct the 18-month project. The technique, if economically reasonable, would make possible the use of low-grade coal without adding large quantities of sulfur dioxide to the atmosphere.

Two recent Supreme Court rulings have set important precedents for wildlife conservation. A ruling on feral horses and burros affirms the right of the federal government to manage wildlife on federal lands, a right traditionally claimed by state governments. Another decision affecting Death Valley's endangered pupfish supports the federal government's authority to control the groundwater contained in federally regulated areas such as national monuments. Ranchers had been pumping groundwater and thus exposing a ledge needed by spawning pupfish.

A Canadian government scientist has isolated a strain of bacteria which break down polychlorinated biphenyls (PCBs), a group of very persistent pollutants. PCBs are converted to carbon dioxide and lightweight organic acids.

Peregrine nesting success has increased in California, with five of six nests under surveillance this year fledging a total of 12 young. Peregrine falcons were one of the earliest-noted birds to suffer high reproductive failures due to thinning of eggshells caused by persistent pesticides. The population decline was also affected by human disturbance and loss of habitat. This year, none of the falcons were lost because of human activity.

Things are looking up for Kirtland's warblers. The adult population of these endangered birds is up 12 percent from 1976, bringing the nesting pair total to 200. They have also moved into new areas. Biologists believe the increase is due to burning to create young jackpine stands required for nesting, control of cowbirds which act as nest parasites, and restricting use of tanks by National Guardsmen in a nearby training area until late summer.

Arthropods are finally coming into their own in the zoo world. The Smithsonian Institution in Washington, D.C., recently opened the nation's first insect zoo. This generally overlooked form of wildlife has its own two zookeepers there.

The Bureau of Land Management is trying to save severely-deteriorated western range by "farming out" some wild horses. These animals, descendants of horses escaped or released since the Conquest, compete with native wildlife and domestic livestock on public grazing areas. An expected annual increase rate of 20 percent worsens an already serious situation. Anyone can apply as a "foster parent"; those approved must move horses at their own expense. Offspring become the property of foster parents.

Inadequate funding and lack of employees are blamed for serious deterioration in our National Parks. The chairman of a house subcommittee which extensively investigated the problem lamented "the sad state of conditions presently existing in our National Parks. It's about time the Interior Dept., the OMB, and the Congress respond to the obvious need for additional resources of one of our most dedicated and responsible federal agencies—the National Park Service."

IT'S THE LAW



NOT ALL GAME LAW VIOLATIONS ARE INTENTIONAL. AS A SERVICE TO COMMONWEALTH SPORTSMEN, GAME NEWS, IN COOPERATION WITH THE DIVISION OF LAW ENFORCEMENT, TAKES THIS MEANS TO BRIEFLY CLARIFY SOME OF THE MOST FREQUENTLY MISUNDERSTOOD OR LEAST KNOWN GAME LAWS.

GOOD EATING!

QUESTION -

MUST I HAVE A PERMIT TO TRANSPORT A DEER ROAST THAT A FRIEND GAVE ME?

ANSWER -

NO, YOU MAY POSSESS OR TRANSPORT A PART OF A BIG GAME ANIMAL WITHOUT A PERMIT. BUT ON REQUEST YOU MUST IDENTIFY THE PERSON WHO KILLED THE DEER.

QUESTION -

THE TURKEY I SHOT DIDN'T LOOK HEALTHY. COULD I HAVE GOT PERMISSION TO HUNT FOR ANOTHER ONE?

ANSWER -

YOU SHOULD HAVE TAKEN THE TURKEY TO A DISTRICT GAME PROTECTOR FOR EXAMINATION. IF THE TURKEY WAS UNFIT FOR HUMAN CONSUMPTION WHEN KILLED, THE GAME PROTECTOR WOULD HAVE GIVEN YOU WRITTEN PERMISSION TO HUNT ANOTHER ONE.





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DECEMBER, 1976

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—DOUG PIERCE

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COVER PAINTING BY DOUG PIFER

"Wily" is used often to describe whitetails—and with good reason. On opening day the woods are so full of hunters that it's sometimes tough for deer to find places to hide. But for the rest of the season, they're grand masters at sneaking off right behind you . . . looking just like a log or stone . . . remaining motionless and practically invisible in thick brush. Those who think the contest always favors the wielder of a modern scoped rifle must never have hunted the wily whitetail in Penn's Woods!

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And This Makes One Hundred

THIS IS THE HUNDREDTH GAME NEWS editorial I've written. That has no particular importance, yet it seems as if it ought to. Certain numbers have built-in significance because they sort of wrap things up into a self-contained unit. When you have ten or a dozen or a hundred of something, you feel you can tie a string around them, toss 'em in a closet and forget them. Maybe someday, you think, you'll do something with them all, but in the meantime . . . forget it.

Perhaps unfortunately, I can't completely forget these. Not that I feel everything revolves around them, for I'm sure it doesn't. It's just that I occasionally look back over them, hoping that something I've written previously will give me some idea of what to write about this month. The writing of an editorial isn't difficult—all you need is an opinion and lots of people will tell you I'm the most opinionated person they know—but finding a subject can be a problem. It ought to be easy to come up with one subject a month. After all, newspaper editorialists face the problem daily. However, they have each day's international, national and local news to comment on, they can get involved in politics, they can do all sorts of things we can't do here, either because it isn't pertinent to our general field or because of specific restrictions applying to state publications. For instance, a number of readers suggested that I do an editorial on the upcoming (as this is written) Presidential election. State regulations did not permit me to do so. I'd have liked to, for personal reasons, but I didn't really mind the restriction. In the first place, I doubt that anything I'd have written would have changed anyone's vote, and in the second place, I'm not sure I'd want to. It's old-fashioned, I know, and in the minds of many absolutely irrational, but I still have faith in this country's so-called common man to make the best selections possible out of the choices offered. I know the country is full of connivers, angle-players, and others of that ilk, the smart guys who always want to rig things to their own advantage. Sometimes things break their way for awhile (as might have happened regardless of their finagling), but in the end things average out for most of us. You win some, you lose some, as the kids say. Maybe it's just personal lack of interest in "arranging" things that made me a typewriter-banger instead of a third-rate politician. Or maybe I'm lazy and have an irresponsible attitude toward society and in general just don't give a hoot about the important things in life, as various people have told me. I dunno. Truth is, I don't even care. When I sat down at this old typer a few minutes ago, I had vague hopes of writing something significant for this one hundredth piece, but as you can see it's nothing more than oddball disconnected personal ramblings. That's how things go at times. My mind is elsewhere today. In a few hours, Lou Hoffman, Andy Hufnagle and I are leaving for an elk hunt, and thoughts of that keep intruding. We probably won't see any elk, but no matter. I'd rather spend a couple of weeks in Colorado's high country, then come home to pheasant hunting in York and Adams counties and deer hunting in Perry, than to be elected President myself. You gotta keep things in the proper perspective in this world—*Bob Bell*



Life Among the Delaware Indians

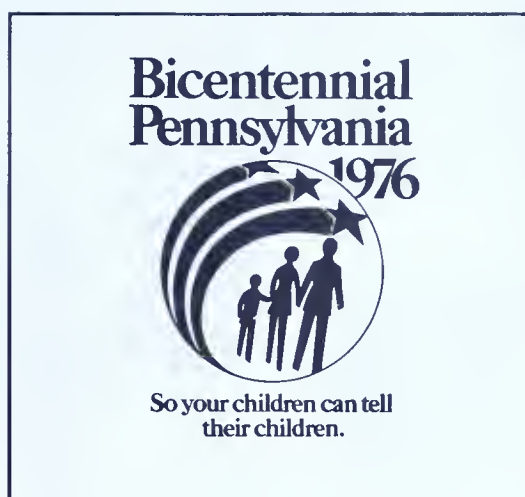
By Bruce A. Rosenberg

Like the white man, the Delawares (or Lenni Lenape) had only one god: the Great Spirit who created all things. To him all Indians prayed, though they knew no rigid orthodoxy and each individual's faith was, in its details, a personal matter. To these native Americans of eastern Pennsylvania all things in nature—the rocks, the stones, the trees—had souls and were worthy of reverence. The most important religious holiday of the year was the Big House Ceremony, in which the great bear (seen in the night sky as Ursa Major, or the Big Dipper) was overtaken in a cosmic hunt and killed. Winter would then come on, but spring would not be far behind.

Hunted With Fire

The men could hunt for game when the grass shot up. The hunters often traveled in groups, surrounding their quarry as it lay in the meadows. Braves set the grass on fire in a circle around the entrapped game, the flames were driven inward, and the men followed the march of the fire, howling and shrieking. When the smoking circle had tightened, the meat-giving animals were killed: rabbit, buffalo, and deer. The women planted corn, beans, and pumpkin squash in plowed fields and picked apples and berries from the wild. All knew how to catch fish, usually in baskets. Forest trees were made to yield sugar and syrup, a delicacy which delighted the first French explorers. In jars which they molded and baked themselves, or whittled from the bark of hardwoods, Indian women had mastered a variety of cooking skills: they roasted meat on spits, knew how to boil anything, could even charcoal-broil. Corn—known to the white settlers as Indian corn, or maize—was their basic food. To avoid the monotony of only one cereal, they learned to prepare it in a dozen ways—with chopped meat, with fish, with chopped nuts, with maple sugar, boiled, roasted, ground.

Corn, however, rapidly depletes the soil, a sad fact for the Indians in Pennsylvania. Instead of rotating crops, they changed the locations of



their villages every few years. This was no simple matter, for they did not live in portable teepees. The Delawares, like the Iroquois, lived in log "long houses," semipermanent structures which might shelter several families, partitioned off from each other. In the long house the wife tended her children (who were literally hers, should the family divide), made household utensils, prepared the game which the man had killed, and made the family's clothing. She was, in the cold terms of the blood money by which she could be precisely valued, worth twice as much as a man.

The Big House

In the fall the earth no longer yielded corn, and the game was harder to follow in the snow. To thank the Great Spirit for the fruitful season past, and to beg his mercy during the winter to come, the tribe went again to the Big House. Oriented from east to west, it symbolized the world: its floor was the earth; its ceiling was the sky; the great pole in its center was the world tree, the earth's connection with the creator above. Up there, beyond the sky, if the Delaware had shown himself worthy, he would one day go—to a land without pain, abounding with deer and buffalo, brightened with a light clearer than that of the sun itself.

—From *Pennsylvania 1776*, 380 pp., 522 illus., December 1975, \$12.50; copyright 1975 by The Pennsylvania State University Press, University Park, Pa. 16802.



RAYSTOWN REMEMBERED

By T. R. Them

SPIRALS of smoke drifted up the hill in the fading light, as the camp cook stoked up the wood-burner to prepare the evening meal. One of the hunters was just coming in with a fat spike buck in tow. The big tent with the stovepipe sticking up through the roof was a welcome sight to him, and would soon be a haven to the others yet to arrive. Roomy, warm and well organized, this camp would be remembered long after the hunting season closed.

The camp stood well up from shore, in a grove of evergreens, on a public camping area on the fabulous Raystown Lake Project, which impounds the Raystown branch of the Juniata River. Completed recently by the Army Corps of Engineers, the 8300-acre manmade lake twists and turns through beautiful mountains, providing 118 miles of shoreline. Camping areas are spotted along both shorelines. Some are accessible in summer by car, others by boat only. Our site had water, sanitary facilities, firewood, fireplace, and picnic tables. Public hunting is permitted in most areas. Access in winter is by

shank's mare or boat; either way, the hunter travels through prime deer-hunting territory. We went in by boat from the James Creek ramp, as the camp gear was too much to pack in. Our group included GAME NEWS editor Bob Bell; his bearded former understudy and staff writer, Chuck Fergus; Paul Wright, outdoor editor of radio station WMUU in Greenville, S.C., and your writer, sometimes known as Uncle Ted.

As we went in, towing a canoe behind the motorboat, visions of huge bucks with exceptional racks entertained each of us. One thing for sure, we three Pennsylvania hunters were rooting for our friend from below the Mason-Dixon Line. Paul had grown up in the Butler, Pa., area, and had done little deer hunting since leaving for South Carolina. We wanted him to connect. As near-strangers to the Huntingdon area, where the lake is situated, and heading into unknown territory, we were all equal. At any rate, we would give it our best for a couple of days, come what may.

Arriving at our campsite, we quickly set up the big wall tent, stowed the gear and groceries, and got things squared away. In a short time the foam mattresses and sleeping bags were unrolled at the rear of the tent, a sittin' log was moved into place at the foot of the bags, and a lantern was hung from the ridgepole.

"I've eaten Bell's cooking," Fergus told me, "so I nominate you for that job. We'll take care of the other odds and ends—dish washing, wood gathering, and so on. Okay?"

That struck me as reasonable—I've tried to eat Bob's cooking myself—and as the others unpacked their personal gear, I got supper on the stove.

After emptying the chili pot that first night, we began to think seriously about the next morning. Topographic maps of the region were pored over, and each man selected the area he wanted to try. As we talked, we were visited by an officer of the Raystown Project. He told us we were far enough away from the access roads that we could not count on other hunters to move the deer around. He assured us that the herd was at capacity in this section—good news to all of us!

Evening Talk

We dawdled away the evening, drinking coffee and arguing the virtues of various guns, loads, scopes, etc., as all hunters do. Fergus and Bell were both using 284 Winchesters built on M98 Mauser actions, Chuck's wearing a 1½-4x Leupold scope, Bob's a Weaver V4.5. Paul had a 300 Winchester Magnum built on an FN Mauser action, which he had stocked himself. His scope was a 3-9x Leupold. He tried to apologize for bringing such a powerful rifle to hunt whitetails, but I told him not to give it a second thought, that my homemade outfit was a Siamese Mauser action rebarreled to handle the old 45-70 cartridge, and with top handloads it approached the 458 Magnum in energy. Of course, it can't equal the 300 as a long-range outfit, but it's sure a short-range cruncher. Admittedly, this power isn't needed for deer (and I rarely load to maximum when hunting them), but it's fun to play

around with an outfit like this at times. I use a 4x Redfield scope, which gives a good compromise between power and field of view.

Paul looked around the big tent as he poured more coffee and remarked, "You guys know I haven't been in many deer camps, but this one looks and feels almost like home."

"Yeah," Bell replied, "I've been hunting with Ol' Them for many a year, and I can tell you he's learned his lessons well. We've spent time in cabins, siwash camps, spike camps, dry camps, cold camps, wet ones . . . you name it, we've probably tried it. Looks like he put it all together for this one, and I'm not complainin'." Coming from Bell, this was a long-winded statement.

"You betcha," I answered. "Remember that last elk trip to Colorado, 12,000 feet high, no water for miles, and a two-burner stove to cook on? Well, I got an eyeful when I visited the camp across the meadow. One look at their setup convinced me. I found those stalwart souls roughing it in a warm wall tent, with a wood burner stove, folding table and chairs—the works. A sleeping area and a combination front room for cooking, sitting, and eating. Since then, I've been in other



TED THEM loads his homemade Mauser-action 45-70 for first day's hunt out of Raystown camp.



PAUL WRIGHT, outdoor editor of South Carolina radio station, uses canoe for easy "drag" on Raystown Lake.

camps, up the Allegheny River, in Idaho, Canada, Newfoundland and other places, and I learned something new at each. So now I use a high-wall tent, a sheet-metal shepherd stove, and I keep my cooking gear in large cloth bags with a drawstring. And I make sure of a water supply before I unpack the tent. All of it adds up to a place like this, just so guys like you can come in each day to hot food, have a place to hang up your wet clothes and know they'll be dry by morning, be comfortable sleeping, and have room to move around. That little stove is the lifesaver. Use it for cooking, heating, and keeping the tea water hot . . . and have some left over to do the dishes, too! For certain, you can't haul all this stuff around on your back, but it sure is worth the extra effort when possible. And," I added, "you guys just remember that the camp cook does not do the dishes, so get with it!"

We had breakfasted on eggs, bacon, coffee, toast and jelly, in a warm tent, before dawn broke. The toast was easily made on the flat stove surface. The wind was blowing steadily as we left camp, and the rattle of dry leaves on the oak trees covered any sounds made in walking . . . by either men or animals. A trace of snow lay on the ground, making conditions just about right for still hunting.

Easing my way up a hogback near camp, I sighted deer walking away from me, in no big hurry. A shot from across

the lake opened the season, and I began to look for a good set of antlers. I saw plenty of deer that windy morning, mostly does and their first-season fawns. Passing up two spike bucks, I told myself it was "8 points or better, or nothing." By noon, it was still nothing. Back at camp for lunch, I learned that the others had the same kind of luck . . . except that Paul said he would not be so fussy about horns on Tuesday! Hot soup, some goodies, and we were returning to the hills ready for four hours more of hunting.

More deer were jumped from their early afternoon beds, but other than a twitch of the ears and intent stares, they showed little alarm. I saw a few other hunters in my sector, but none were moving around. They'd walked in from a road some distance up the hill, and had been at their stands all day. Halfway through the afternoon, the wind let up. Now the deer were a bit more spooky and moved out farther ahead of me. None of them had grown any horns as the sun began to set, and I headed back to headquarters without firing a shot. I had heard a fair number of shots through the day, and learned from one of the standing hunters that one of our group had missed a spike buck about 2 o'clock.

I didn't talk to the hunter long, as cooking chores dictated my early return to camp. I had supper well under way and was relaxing a little when I heard heavy breathing outside the tent. That

meant just one thing . . . one of our group had scored and had dragged a deer in. Stepping out, I saw Paul drop a tow rope and unsling his rifle. He was checking to make certain it was empty when he heard me call.

Missed One

He turned to say, "I missed an easy one after lunch, and this little spike trotted past me later on. Right then, I decided not to wait for tomorrow!"

"Don't apologize to me," I said, as we rigged a hoist and hung the carcass to cool out. "Waiting for a big rack is no way to put buck chops in the frying pan."

Chuck and Bob straggled in a little after dark. Minutes later we were all wolfing down heaping plates of stew, hot biscuits with honey, and large mugs of tea. After finishing our dessert of canned fruit, we began to hash over the day's events. All of us had seen legal deer, two had seen tags on several 4- and 6-pointers, but only Paul had fired a shot. This was fine with us, as we sure wanted him to take a deer back to South Carolina.

"Was that 300 Maggie big enough for the job?" Chuck asked Paul. "Some of these critters get ferocious, you know."

"Well, it seemed to do all right, but Ted's outfit might have been better. It wasn't a long shot and there was some brush, and he claims that's what his old 45 is good at."

"That's about all, I'd guess." Fergus replied. "Didja ever really look at that rifle? From the side, it looks like a varmint barrel, but from the muzzle end it's more like a wastebasket. I doubt if it'd shoot more than a hundred yards unless you aimed it like a mortar."

"Now, listen," I said. "Snide remarks'll get you nowhere—especially at breakfast time, which'll be here before you know it. Besides, young fellers like you oughta show more respect to your elders and their equipment."

"I do, I do. Don't I have a 284 just like Bell's? Same Nosler-bullet handloads and everything. What could be more respectful?"

"Well, that's just plain foolishness, I'd say. I admit Noslers are great, but

the 284 is just as obsolete as the 45-70. Nobody even makes a rifle for it anymore. You oughta use a little sense when you're showing respect, Fergoo. No use getting carried away with things."

"I dunno. Everybody's got to make a stand somewhere, and I'll go along with the 284. We've chronographed the 140-gr. bullet at 3000 feet a second, which is about six times faster than that bowling ball you're fooling with, so I don't think I'll start advancing to the rear just yet. Besides, the old feller here tells me he's killed nine deer with the last nine shots out of his 284, so it can't be all bad."

"Assuming you can believe him, of course. Which isn't always a good assumption when you're dealing with outdoor-writer types."

"I admit there's a possibility he's stretched the truth at times. I remember a story Don Lewis told me about a chuck hunt . . ."

"Pass the tea bucket," Bell said. "Where'd you hit that old spike, anyway, Paul?"

"Just behind the shoulder. That 150-gr. Hornady went clear through."

"I imagine it did. Don't suppose Uncle Ted showed up to help you drag it out?"

"Never heard him holler," I said.

"You never heard me holler after I got that last elk in Idaho either," Bell said. "You've got those convenient-type ears that switch on and off as desired."

Paddled Back

"I didn't need any help," Paul said, chuckling. "I just pulled him down to the water's edge and paddled him back in the canoe. Could've dragged him in just as easy, but after we brought the canoe all the way in here, I thought we ought to get some use out of it."

"Good thinking. First thing we know, you'll be writin' hunting stories too, instead of just telling your listeners about 'em."

"How come you guys all passed up deer you could've taken? Makes me feel a little funny to be the only one who shot a spike."

"Be glad you got one," I said. "Lots of hunters never get a shot at a buck."

The odds are against it, even if they've got all season to hunt. When time's as limited as yours, it sure doesn't pay to pass up anything that's legal. We all have antlerless licenses, so we have a good chance of getting a deer later, if we don't connect on a buck. Makes it easy to be a 'trophy' hunter. And who knows—one or two of the spikes we passed up today might make it through the season and grow a real rack for one of us later on."

That night a group from another camp came over for coffee. They liked our warm tent so well that we had a hard time getting rid of them by bedtime! Wes Bower and his boy also dropped in to tell us they'd join us in the morning for the second day of hunting. The long walk in from the road must have worked on Wes, Jr., 'cause that teenager just about cleaned us out of cookies and candy. After the dishes were done and the tea bucket was empty, we headed for our sleeping bags. If anyone snored, I was too tired to hear it.

Tuesday broke bright and clear. Each of us took another sector to hunt, except Paul—his deer was tagged! He

WRIGHT accepts Bob Bell's admiration for only buck killed from camp.



offered to drive for us but we rarely hunt that way, so he took his camera to try for some pictures.

Dirty Pierre

I pussyfooted up a ridge which ran along the lakeside and took my time looking over about two miles of hillside. I saw a number of deer, most of which gave me plenty of time to find horns, but no racks were seen. Another day ended early, as I, "Dirty Pierre" the camp cook, wended my way back to the tent. I'd come by that title through the years . . . the result of refusing to shave while in deer camp. The others were usually guilty of the same offense, but somehow I was singled out to bear their jeers. Actually, we got along fine, but none would be the first to admit it . . . typical camp tactics. That night, as the dishes were washed, I learned what was bothering me. It turned out to be the detergent used for dishwashing. That stuff was so potent that a sniff of it made my eyes water and nose tighten up. Once again, I'd learned something new—check such things out before you hit camp!

After supper, we had a powwow. Chuck had to leave that night, Paul had a long way to go, Bell was remembering some work he had to wrap up, and I sure didn't plan to pack all that stuff out by myself. Wes and his boy had to get back home soon. So, the decision was made to leave in the morning.

As we broke camp, we each knew we'd found something of what we went there for. Only Paul had taken a deer at Raystown (the rest of us got ours elsewhere last year), but we were all glad we'd been there. A few days away from work, in the clean outdoors, new hunting scenery, the fair chase of our quarry, camp camaraderie, meeting people who work at providing this sport for us . . . everything combined to stick in our minds. For that's what modern hunting is, a chance to exchange ideas, test your abilities, and acquire a love for the outdoors . . . all this with no pressure to put meat on the table. An atavistic urge, to be sure, but one that I'd be lost without. It makes me, for one, feel good to remember Raystown.



Last-Minute Linda

by Linda L. Steiner

I CAN'T remember not being called Last-Minute Linda, Slowpoke, or some such nickname in reference to my speed at getting things accomplished. Who never gets her work done on time? Who's the last one ready to go anywhere? Who had to be badgered for months to sit down and write this story? Just ask my husband, Bob.

Actually, Bob's partly to blame for my nickname. He's the one who introduced me to hunting. What did a gal from New York City know about hunting? When I decided to go, I accepted it as a sort of challenge, being a member of a minority group in the sport. I only wanted to be accepted as an equal; didn't expect any special treatment; wasn't out to prove anything. I just wanted to be one of the guys.

That got me into trouble right away. I didn't think I was trying to prove anything, but other people did. I'd go on hunting until the other members of our party were tired and wanted to quit, no matter how bushed I was. I just wouldn't let them say, "We had to quit early because Steiner's wife got tired and wanted to go home." Nope, I wasn't going to let them say that having a woman along spoiled their hunt.

This attitude resulted in some wild times. Ol' Last-Minute Linda really made herself last minute. So I wouldn't be thought of as a softie, I'd stay on stand right up until quitting time and grope the mile or so out in darkness. I'd walk the extra mile, or volunteer to be a driver . . . again. I even felt guilty about quitting early in a thunderstorm one day in archery season, until I got back to the car and discovered the rest of the group had been waiting for me all afternoon. T'weren't fit out there for man nor beast—what was I doing hunting?

That should have clued me in immediately, but some people are just dense. I had felt the need to try so hard that I was actually making the men in the group feel guilty for not keeping up. That is, until a day-long, stomp-the-brush rabbit hunt, when the leader of the party decided that no woman was going to outwalk him, and I decided that as long as he could keep it up, I'd ask no quarter. This little display of male and female chauvinism left both of us lame for about two weeks.

Soon I discovered what being last minute was all about, and in ways I'd never dreamed possible. Beginner's luck wasn't for me, as I hunted four

long years without tagging a deer. Excuse me; "hunting" to us is "deer hunting." I remember vividly sitting on stand until the last second of the last minute of the last day of every archery season, buck season, antlerless season and extended archery season in those years. Deer were beginning to seem supernatural to me. What more did they want? I felt I was giving all I had.

Friends would look at me and shake their heads, partly in awe but mostly in pity. Linda was certainly out there until the last minute, no matter what. Now being the slow one, on the tail end coming out the woods, was looked up to. What a change! I could be called Last-Minute Linda with pride.

"Yeah, Sure . . ."

But in a way I felt doomed. After all, sitting in the cold and wind until the end of all the seasons isn't that enjoyable. Just once I wanted the experience of being a successful deer hunter. My husband's a far more experienced hunter than I, and he kept reassuring me, "Your time will come. Things will work out just right. You hunt hard, but you just haven't had the luck." I'd say, "Yeah, sure," and prepare for another long seige, to the final gun of the season.

But he was right, as I should have known all along. I was either getting better, or luckier. On the fifth year I bagged my deer, in the true style of my nickname. The second day of the two-day antlerless season, late afternoon, of course. Everyone else in the family had filled his tag, and Bob and his dad were taking a day off work just to put on drives for me. I hadn't had a shot at a deer before, so why should this last day be different? I wondered. But of course I had to go.

Bob and I were walking back toward the car at day's end, talking, when a doe bounded out of the laurel. Bob shouted, "Lin, a deer!"

I pulled up my gun, followed the animal's long bounds through the trees, pulled past her and fired. The doe crumpled. I had my first deer.

"They're not supernatural!" I yelled.

Bob hooted and hollered like a madman, even happier than I was that



"LUCKY LINDA" and her 5-point buck taken with 47-pound bow.

Last-Minute Linda had gotten her first deer—even though she did wait until the last minute.

After the first deer, I was on my own. The ice was broken and I'd have to work for the next one myself.

It was even later on the last day of antlerless season, the following year. My husband had tagged his earlier and stopped by to check on me before descending the mountainside. "If you shoot, I'll hurry back up and clean and drag it out for you," he told me. I still reserve that privilege of femininity.

I climbed atop a huge boulder that gave me an eagle's eye view of the upper end of a wide hollow. Shortly before quitting time, a deer appeared over 200 yards away. It was not getting any closer and the '06 could handle that distance, so I steadied for a shot. Nothing. What was I doing wrong? Couldn't be that I was shaking. After all, this was the only shootable deer I'd seen all season.

After two more shots, the deer simply disappeared. I stood up for a

better look and spooked it standing just below me. The old "sneak down the ravine" trick. The deer gave one jump and I fired. It whirled and was gone.

My watch said it was time to go home. But first I wanted to check on the possibility of a hit. I scrambled down to the last place I'd seen the deer, glanced up through the woods—and saw it lying motionless a short distance away. Talk about last-minute success!

Tough Haul

It's quite another story of how I managed to dress out and drag my button buck. Bob didn't think it was me shooting and never appeared. He finally found me stranded in the middle of a boulder field after dark and practically had to drag me and the deer down the mountainside. We never reached the car until 7 o'clock. I was happy to have gotten my deer and be back safely, and didn't even mind the razzing about having to show off and be the last one out of the woods.

As I went into my seventh year of hunting, I told Bob "I'd like to find out what it's like to get a deer early. To not have to sit until the last minute in the cold every buck and doe season. It must be a nice experience." Of course, I was elated at my new luck bringing me two deer, and I enjoy the hunt itself as much as anyone else, but must I always be the one out there the last minute of every season? Was I to be last minute forever?

I guess wishes don't go unheard—at least this one didn't. While hunting in the Endless Mountains on the third day of archery season, two bucks came down the hillside toward me while I was getting ready to go back to the car. It was just a few minutes before quitting time . . . again.

As soon as I spotted them, I

crouched down and slid my camo face mask back on. The second buck, a big one, spotted me, but the first, a 5-point, continued sauntering along. No time to be greedy. As he passed behind some huge hemlocks that shielded me, I drew my bow and waited. When he reappeared, at about 15 yards, I released.

For the first time in my bowhunting career, things went right. The arrow drove home and the deer began a scrambling run out the ridge. I watched carefully where he disappeared, and then called Bob. It was already getting dim on this side of the mountain, and I couldn't distinguish colors to find blood. Bob was confident. I was a nervous wreck. He walked the road below me to see if the deer had crossed, and suddenly yelled, "He's right here, Lin, and stone dead."

By the time I got the camera, knife and dragging rope, it was already dark. Bob dressed the buck out by flashlight. He couldn't wait to tell our friends that Last-Minute Linda had done it again.

My husband had been right all along. Once in a while, things do work out. I'd play the right hunches and make the right shot. It would be as if the script had been written beforehand. The rest of the year was like that. Besides my last-minute bow buck, I amazed everyone, including myself, and shot a large gobbler in the fall season, in time for Thanksgiving. At the end of the year I also had about a dozen and a half squirrels in the freezer, not a few of which fell to my rimfire rifle as I watched and waited until the last minute of legal shooting time. I'd gotten used to being called Last-Minute Linda all my life, and had gone from hating it to being proud of it. But after this year, I'm being called another name, one I like even better. It's Lucky Linda.

Note to Picture Contributors

The pictures of hunters and their deer in this issue represent only a fraction of the hundreds we receive. Many of those remaining are good pictures and impressive trophies. However, it is simply impossible to fit them in, even with an expanded photo section in December. We would like to thank all those who have submitted photos, and express our regret that we cannot acknowledge them individually.

Buck Season Ducks

by Nick Sisley

"FREEZE," Kirk grunted. I wanted to retort, "I'm already doing that, partner. What else is new!" But I froze! Three of us were huddled in two canoes, and shortly after Kirk's warning he slowly raised his duck call and started speaking in the voice of a melodious hen mallard.

It was just past shooting time. The eastern horizon was bright and aglow, the time of day when ducks materialize out of the mist and are speeding out of range before a hunter can realize it and react. Usually one hears their whistling wings before he sees them. Tim Brown, my other duck hunting mentor, soon had his lips pursed over a call, too. A quartet of quackers zipped behind us while my guides tried to tempt them closer with the mating call. I stayed frozen, not moving a muscle. As the birds were melting from view to the west, my two pals changed to the high ball or come-back call, and the quarry did a 180. Now they were passing in front of our little stool of decoys and goose blocks, but a tad beyond range. About this time my friends switched to the garbled mallard feed call, and that was all the four birds could take. They made another swing to the left, then suddenly they were approaching our canoes.

That's when Kirk switched from mallard lingo to English. "Get 'em!"

We did pretty well at "getting 'em."



KIRK JOHNSTONE paddles his canoe into the bullrushes in northwest Pennsylvania marsh.

Eight shots rang out—all we had in two semi-autos and one double—and all four ducks splashed into the water behind us. They were widgeons, a new species for me but old hat for Tim and Kirk.

It was the first Friday of buck season, 1975. I had the good fortune of taking an 8-pointer on the opening day of the season, and, as I do in most years after being successful on deer, I had switched my hunting emphasis to waterfowl. For many years our season on ducks has extended through all or most of the buck season. This is a great time to go after ducks, for several reasons. Number one, you'll encounter a minimum of pressure from other hunters—they're all hunting whitetails. Number two, the weather is usually cold—ideal for ducks—and if you can find them, the birds are often concentrated. Number three, cold weather often

brings in a new supply of mallards, blacks and other species from the Canadian north country. As a rule, these birds are not as wary as those that have been around for several weeks and shot at regularly!

We were hunting one of the largest and most popular marshes in northwest Pennsylvania that morning. We had this vast area almost entirely to ourselves. By the same token, in October and November, when other hunters aren't out trying to match wits with whitetails, this same area gets a vast amount of pressure from waterfowlers. There are several expansive duck marshes in northwest Pennsylvania that Keystone State hunters can consider. No, I am not willing to reveal our location. It's up to you to find the producing marshes and birds on your own. I do suggest, however, that you consider giving this duck hunting in whitetail season strong consideration this year—especially if you bag your buck early.

Tim Brown was attending Edinboro College in southern Erie County, where he majored in geography—and minored in duck hunting—or is it the other way around?—at the time of this story. We would see each other from time to time, usually when he returned home to the north Pittsburgh suburbs during semester breaks or holidays. Many times we vowed to join forces for a duck hunt near his college campus.

Real Duck Nuts

My other hunting partner was Kirk Johnstone. Kirk was born and grew up a short distance from my home in Apollo, but his parents are now living near Cleveland, Ohio. Kirk, too, was attending Edinboro and planned to be an elementary school teacher. Both have been graduated since this story was written, but these hard hunting duck nuts were roommates throughout their college careers. Naturally, they always tried to arrange their course schedules so they could sample the fine duck hunting that this corner of the state offers.

As all duck hunters must, we had arrived at the marsh well before daylight. In bleak, cold darkness we unlashed

lightweight canoes from car racks, carried them to the water's edge and filled them with gear. A skim of ice had formed along the edge of the marsh, and it grated loudly against the canoes as we paddled away from shore. It was one of those clear December mornings, not enough wind to ripple the water surface.

Tim and Kirk were both using 12-ga. 3-inch Magnum semi-autos, Tim's a Remington M1100, while Kirk had a Browning. Both were utilizing magnum loads of No. 4s, their favorite for ducks, and full chokes. I was toting my usual duck/pheasant/dove gun, the venerable 12-ga. Parker with 28-inch barrels, choked improved cylinder and full. My ammo consisted of reloads carrying 1³/₈ oz. of 4s in Winchester AA cases.

We all wore adequate clothing, too. Tim and Kirk used the layer principle with several woolen garments, then a duck cloth coat. I had one of the new float coats made by Stearns and approved as a life preserver by the U.S. Coast Guard. Insulated waders rounded out our apparel. In my travels I have found that only tyro duck hunters wear knee length or hip boots. Waders give the waterfowl enthusiast much more flexibility, and in cold weather they provide a degree of warmth that can't be matched by any boot.



KIRK AND TIM Brown (right) are more than pleased with ducks bagged during deer season.

Though Tim and Kirk had hunted this marsh numerous times before, it was my first outing here. They knew exactly where they were going in the dark and *two* men were paddling their canoe. I had a time keeping up. When we left shore I didn't realize it would be necessary to travel so far. As our shooting action proved, however, my friends knew what they were doing—or more appropriately on this point, *where* they were going.

Finally, we reached the place where my guides wanted to set up shop. They had a few goose decoys, eighteen duck decoys (I don't know how they found room for anything else in that canoe) and I had six big magnums—three mallard drakes and three suzies. Tim skidded one of the keelless duck decoys and one of their goose decoys up onto the ice. Then they arranged the rest of their stool just off the edge of this frozen slack water. They instructed me to string out my six oversize magnums off to one side of theirs, thus providing an opening in our spread where incomers might be enticed to land.

It was almost shooting time when the decoys were properly set. We still had to wedge our canoes back into the weeds and bulrushes. This was a difficult task, because this part of the marsh had also frozen over during the night. We had to do a lot of chopping with our paddles, pulling, forcing, and struggling before we were able to get both canoes hidden. Because of the frozen surface and frost-stiff bulrushes, both of our little boats provided reasonably stable shooting platforms.

Early Action

By shooting time we were ready, and a few minutes later we dropped the four widgeon in the action described at the start of the story. After retrieving them (which took some doing, as three fell into the thickest marsh vegetation around), we settled down to watch the marsh awake. Mallards, big blacks, woodies, ringnecks, and other species began trading back and forth in front of us. Several times birds bulleted by overhead, out of range before we could swing shotguns into action.

I have long vowed to learn the intri-



THE FELLOWS jostle one another happily after successful buck season ducks.

cate art of calling ducks. Who knows, maybe I'll even accomplish this feat someday! I know enough about what is required to keep my own call safely tucked inside my coat when birds are about. Hopefully someday I'll gain the confidence and ability to call reasonably well. Only a handful of the duck hunters I've known do anything but spook 'em when they call.

There was a time when I thought the most important part of duck hunting was to simply get a crack at them. Since then I've graduated. In recent years I've been able to hunt with many duck experts, both here in Pennsylvania and in other top waterfowl states. Until you've actually watched someone call waterfowl from high in the sky, seen them cup their wings, almost parachuting down, then work the decoys pass after pass before finally extending their feet and dropping into the spread, you haven't experienced the best that waterfowling has to offer. Of course, all the time the ducks are working like this, the caller must keep up a steady chatter, and he must know what he's saying with every quack. For me, call-

ing and watching ducks work has become the essence of duck hunting.

And that's the way it was on the next flock that Tim and Kirk talked within range. It was a trio that my guides suckered in from afar. The birds didn't like what they saw on the first pass over the stool and immediately beat their wings furiously to escape. But with both Tim and Kirk pleading and pleading, the birds finally changed their minds—when they were about 300 yards off! As they swung around for another pass, I could feel the adrenalin pumping. Too high this time, but as they passed overhead Tim and Kirk switched from the come-back to the feeding call. That was more than these birds could stand. They cupped their wings in classic fashion, made a lazy turn to the left and settled in, feet extended. We gunners came into action as one. Three ducks splashed among the decoys, a greenhead, a suzie, and a big black.

Long Shot

While Tom and Kirk were out retrieving those, two more ducks came winging in. I had remained with my canoe in the bulrushes. The pair split when they saw my friends in the open. One of them was heading right for me, and just as I was getting ready to bring the Parker up, Kirk made a great long-range shot and another duck went somersaulting. This one was a ringneck. In the Deep South and on the Mississippi flyway the locals call them black-jacks.

It was a great day, I thought. We had

eight birds on the water in a short time. It was worth launching in the ice, paddling in the darkness, setting out the decoys, freezing. The keys to our success were Tim's and Kirk's ability to call in birds, their knowhow in setting out decoys, their ability to pick out a spot in the marsh where they knew birds would be flying close by and a spot where passing ducks could be brought into shotgun range. Finally, they knew where to position and hide the canoes in relation to the decoys, and how to camouflage them well.

Canoes are ideal craft for the marsh hunting opportunities in northwest Pennsylvania; they are lightweight, carry an appreciable amount of gear, are easily handled by one or two people, and if handled properly, are safe boats. Naturally, they aren't suggested for large waters or on extremely windy days when the surface chop can be dangerous. As a rule, however, typical duck marsh-type waters remain relatively calm throughout the season. Also, the thick marsh vegetation, which provides both food and cover for the birds you are after, has a tendency to break up wind that might otherwise create a chop on the surface.

As the sun got higher and the day got brighter, the ducks became less active. Fewer and fewer were seen winging their way from resting place to feeding area. Obviously, it was time to pick up the decoys and paddle back to the cars. Tim and Kirk had afternoon classes to attend . . . but we'd give these buck season ducks a second try before sunset!

Snowmobile Safety Program for Youngsters

Youngsters aged 10 to 15 inclusive must take a free, eight-hour course on snowmobile safety and operator responsibility before they may legally operate a snowmobile on any lands except those owned by a parent or guardian, according to Pennsylvania's Department of Environmental Resources. With over 53,000 registered snowmobiles in the state, safety is a vital concern and DER's Snowmobile Unit has developed a program to help reduce the number and severity of accidents. Over 5000 youngsters have completed the course since its inception in 1975. Instruction is offered at the local level by volunteer instructors certified by the DER. Persons who would like a free copy of the Snowmobile Safety Handbook and individuals wanting to become safety instructors should contact the Snowmobile Unit, DER, P.O. Box 1467, Harrisburg, PA 17120, telephone 717-783-1364.

Second-Day Success

By Gerald L. Spotts

THE WEATHER and road condition information was bleak. A phone call to my folks in Williamsport confirmed these reports. It was Sunday, the day before the opening of deer season, 1974, and the snow and wind were making the secondary roads quite hazardous.

My 17-year-old son Dave was hoping to bag his first buck. He had saved his money and bought a 30-06 rifle earlier in the year. Seeing the eagerness and determination in his eyes, I decided to chance it. We began our 4½-hour drive upstate.

By 10 p.m. we arrived in Williamsport. After some food and a short nap, we were on our way to the higher elevations of Tioga County. About 4 a.m. we got the chains on the back wheels of the station wagon and, just before daylight, we arrived at our spot deep in Tioga's woods.

It was Dave's plan to sit high on a ridge opposite a parcel of land I had purchased the year before. A small stream meandered through our woods and thick hemlocks formed a canopy

over the 26 acres. Moving slowly through the early-morning light, I could make out many deer tracks and one set of turkey tracks in the fresh-fallen snow.

On the ridge, Dave was sighting doe after doe, he told me later—22 in all paraded by him before dusk. Once he thought he had a spike in his iron sights, but with the snowflakes splashing in his eyes, he could not be sure. Hour after hour he sat on that ridge, and the only time he took a break was for lunch back at the car. Simultaneously, a flock of turkeys made their way past his stand, leaving telltale tracks in the snow.

It was not difficult getting up early the second day. Because we were novice deer hunters, and having no camp or reservations at any of the area motels, we slept in the station wagon. Snow blanketed the roof of our car, and a thin layer of ice formed on the inside of the windows.

The night before, we had made plans for the second day. Dave would occupy the same spot near the top of the ridge where the trees thinned out. He could see in any direction for about a hundred yards. I would walk through the heavy stand of hemlocks and orchard below the ridge. Ultimately, I would hook around behind the orchard, climb the ridge to his right and start back to him through a cluster of pines. The pine grove was within 200 yards of Dave's stand.

The going was tough, but the deep snow was a blessing. I have a tendency to walk fast, and the white, fluffy stuff not only slowed me down, it also muffled my footsteps.

I was confident I would spot a buck going through the orchard and dense alders that border the stream below the woods, but only fresh tracks appeared occasionally. As I plodded into the pine grove a short distance from Dave, I caught a flicker of gray out of the corner



We saw grouse, turkey and doe, but no bucks.

The buck had crossed the stream and looped behind Dave.



of my eye. Looking up, I saw two huge does. They bolted for the top of the ridge. I took my time traversing the pines, hoping to push out a buck.

Crack! Crack! The shots were fired quickly. Dave saw the deer—a 6-point—moving softly into the clearing. At 40 yards, the beautiful buck stood broadside in his sights. He squeezed the trigger evenly. Nothing happened. Again he pressed, but the rifle failed to fire. Not realizing he had not pumped the action completely shut after loading that morning, Dave ejected the first shell and pumped the second one into the chamber. As he did, the buck sprinted, and the ensuing two running shots missed their mark.

It was a long, quiet ride home. Hardly a word was spoken for the first two hours. But the determination was still there in Dave's eyes to try again.

The Sunday drive to Tioga County a year later was the antithesis of the one before. Not only was there no snow, but the sun was out and the temperature was hovering in the 50s. This year accompanying Dave and me was his brother Jeff and my Chester County neighbor, Walt.

Strong winds howled off the ridges and into the valley the first day. We saw grouse, rabbits, turkey and doe, but no bucks.

That night, over two sizzling hot pizza pies, we made our "second day" plans. Walt and I decided that Jeff would take a stand to the right of Dave near the top of the ridge, and Walt and I would drive as I'd done last year.

The day began with colder temperatures, leaden skies, and intermittent snow flurries. We were approaching the orchard below the boys when three does exploded from cover. A second later, a 4-point buck scrambled behind them and disappeared across the stream. We did not have a shot, but I yelled up to Dave that they were coming.

We picked up Jeff prior to driving through the pine grove. He had seen no deer. We had just begun to fan out along the ridge when we heard a shot.

Walt exclaimed, "He got him!"

Jeff called out to Dave, but there was no answer. Then a voice came back which Jeff did not recognize.

"Dad, I think someone sneaked in between us and bagged a buck," Jeff said.

My heart dropped. We began to hurry, moving toward Dave's position on the ridge. When we cleared the pines, Dave shouted, "I got a buck!"

Jeff had failed to recognize his voice through the thick pine grove.

It was the good-size 4-point that Walt and I had seen earlier. The buck had looped around Dave after it crossed the stream. Dave dropped it with a heart shot at 50 yards.

After much back slapping and ecstatic comments, we dressed the deer and started home. Dark clouds were gathering, and snow was beginning to fall steadily. But as far as we were concerned, Dave's second-day success made the day our brightest in a long time.

BICENTENNIAL GIFTS



By Theodore E. Kiffer

THE SEVEN deer broke quickly out of the hemlock cover and scrambled up the steep slope toward where the hunter was leaning against a white oak tree. Even as he first glimpsed them he was certain that none carried antlers. But that was all right for this was the first day of the 1975 antlerless season. Keeping the oak tree between himself and the deer, the hunter

slowly raised his rifle, rested it on his forearm, and looked at the deer through the 6X scope. The glass confirmed what he had perceived before: all were does and all were legal. Confirming that the lead doe was also the largest, the hunter thumbed off the safety and drew a breath in anticipation of the shot. Less than three pounds of pressure on the trigger would send a

carefully prepared handload on its way.

But something caused the hunter to delay his action. Watching through the scope for a few seconds, he could see that the deer were nervous—ears pointing forward, nostrils flaring, attempting to catch every breath of wind that moved down the surface of the mountain. But especially so was the largest doe. She would start a few steps, stop, turn to the left, turn to the right, take a couple of quick steps, stop. As the hunter watched, he became aware of the sense of responsibility, of leadership that possessed this animal. And he thought a doe like that really is a trophy. During this period of his contemplation, the deer had moved perhaps 50 yards by fits and starts, and their diagonal approach had brought them to within almost 40 yards of the hunter, still hidden by the tree. Soon their course would start moving away from him, but still he watched and still he did not shoot.

Something Wrong

Everything was right, yet something was wrong: he could not squeeze the trigger. Awareness swept over him like a flood as he realized what it was. His heart that had beat so rapidly every time he had sighted deer for the past 38 years was quiet and calm. Something was missing, and that something was the excitement that he had always gained from a deer hunt. True, the excitement had diminished a bit over the years, but now it was totally gone. "I guess I can't do it," he quietly told himself as he pulled the safety back into full lock position, swung the rifle up onto his shoulder, and watched the deer disappear through the timber. A short walk brought him to the car. After removing the handloads and sliding the rifle into its well-worn case, he slowly drove home.

And as he drove, he tried to account for his failure to shoot. He had had an opportunity that a great many hunters in the woods that day would have welcomed. His rifle, which had accounted for many deer in the past, shot extremely tight groups, and he'd had a solid position. A clean kill seemed positive. The doe would have provided

prime venison—but why couldn't he shoot? Arriving home as his son was about to leave for morning classes at college, he faced a barrage of questions: "What are you doing back so soon? Is anything wrong? Didn't you see anything?" His reply was, "Oh, yes. I saw seven. I could have killed any of them but I just couldn't pull the trigger." The son's response was "I guess does *are* different, huh?" for he knew that this was the first year his father had held a doe license in a good many years and he too knew a little of his father's personal debate regarding whether he could shoot a doe or not. As his son drove away, the hunter said, "I guess that's it. I just can't shoot a doe."

There was, however, another factor, a factor that had not yet been voiced but which he recognized: the excitement and challenge of deer hunting had steadily diminished over the years as his equipment had improved. Now that he measured every powder charge in tenths of a grain, seated the bullets just right, and had worked out all the aspects of loading and shooting until he could literally drive tacks with his rifle, the thrill was gone. But the equipment improvement alone was not the real reason he left the mountain that morning without a deer. There was another reason: one that really jolted him when he realized how strong it was. He had turned down a sure chance at a nice doe because he still believed in Santa Claus.

Growing Interest

Almost a year before, the hunter had been in a sporting goods store and had lifted a muzzle-loading rifle from the display rack. He had brought it to his shoulder and sighted down the barrel. And as he did, he felt a kinship with this replica of earlier-day firearms. Just a few years before, the centennial of the Civil War had placed considerable attention on mock battles and skirmishes, using actual Civil War caplock rifles and pistols as well as replicas. He had witnessed one of these mock battles and watched and smelled the great clouds of black powder smoke that rolled away from the muzzles. More recently, the Bicentennial emphasis

had created further public interest in flintlock guns and in replicas of the firearms used from the Revolution to the Civil War. Numerous articles in gun magazines had further whetted his interest in muzzle-loaders, while catalogs and brochures from companies manufacturing these guns had clinched the decision in his mind: someday he would own one. But as the months passed he had done nothing about it except to read more and more about loading, preparing, and shooting the muzzle-loaders.

Early in December, he had accidentally overheard a bit of a telephone conversation between his youngest and oldest sons. Though "gun" was not mentioned, a couple of words made him think that perhaps such a present for Christmas was a possibility. The spark was fanned even more by casual comments from his wife regarding at least one present that she knew he would really like. And thus the hope grew until the real reason that kept him from squeezing the trigger on that first day of antlerless season was nothing more and nothing less than the hope

that he might get a muzzle-loading rifle for Christmas. He then would be able to face the challenge of the primitive-firearm season.

After all the other gifts had been distributed among the family members on Christmas morning, one last package was brought out. As he tore open the wrapping, his only question was what kind it would be. And then he saw it: a Thompson-Center Hawken, a flintlock in 45 caliber. Just what he would have selected had he been buying it himself.

Frustration

Much of Christmas afternoon was spent polishing the brass, rubbing the wood, and sighting on imaginary deer as they jumped through the living room—and, of course, snapping the hammer innumerable times to see the sparks shower from the frizzen into the pan and to get acquainted with the timing of the hammer fall. All local sporting goods were closed the day after Christmas, so a period of frustration followed. He had the gun but was unable to shoot it. Finally, however, he was able to purchase powder and bullets and was ready to shoot the gun.

Loading was a simple matter. He had often read how to do that. As he raised the rifle to his shoulder for the first time and touched the set trigger, the shower of sparks fell into the pan, there was a bright flash as the powder ignited, and ultimately the boom and the cloud of smoke as the charge sent the bullet speeding on its way. He was overwhelmed with the feeling that he had done this before. In a very real sense, shooting that flintlock that first time, though he had never shot a muzzle-loader before, was not a novel experience. It was just something that was done as though he had been doing it all his life.

The link with the past became more tangible when he took the muzzle-loader along on a post-Christmas visit to an elderly uncle living in Forest County. After examining it carefully, his uncle asked if he had a powder horn for it. His response was, "No, but I am going to buy one tomorrow." Shortly before the visit ended, his uncle left the room and returned, holding in his hand



TED KIFFER with both his deer rifles—the old and the new.

a well-worn powder horn, glowing with the patina that can be imparted only by decades of handling. "Take this," the uncle said, "It was your great, great grandfather's." Almost overwhelmed by this gift from which his ancestor had poured powder in the early days of western Pennsylvania's settlement, the hunter drove home, mentally hunting with that long-departed ancestor.

A trip to the courthouse got the necessary extra license for the any deer primitive-firearm season. A telephone call to his father, a veteran hunter of 78, resulted in his procuring a license also. They planned to meet at the same Game Lands in Elk County that they had hunted together for the past twenty years.

A good many practice shots proved the gun was quite accurate, fully capable of hitting a deer's vitals at woods ranges. And since on the last day of the buck season he had seen 24 does and other unidentified deer on the Game Lands they planned to hunt, success seemed a certainty. In fact, the two were confident that alternately standing on watch with the flintlock and driving small laurel patches, it would be only a matter of time until deer would be downed.

Renewed Excitement

But January 1 was a cold day with a thin crust of frozen snow and ice on the oak leaves, and the deer were exceptionally spooky; and most perversely, when they did show themselves, it was always to the one without the gun. This was the pattern for the three days. Only one shot was fired, and that was a clean miss. But something good had happened.

Early in the afternoon of their first day in the woods, the hunter had circled around a knoll to a small laurel thicket. The plan called for the father to wait for half an hour and then proceed slowly through the laurel, moving any deer toward the waiting hunter. After perhaps forty minutes, the hunter heard a slight noise in the thicket. Straining eyes and ears attempted to locate the source. When movement was sighted at last, the source of the noise turned out to be the father. Only



GREAT-GREAT grandfather's powder horn, fitted later with a new throng and plug. Old throng was left on for luck.

then did the hunter realize that he was actually excited, his heart was pounding, and he had forgotten everything except that he was hunting. When his father came out, he said, and he meant it, "I got a bigger thrill out of listening to you walk on the snow than I did from the last three bucks I shot."

Something good had happened: in giving him the Bicentennial gift of a muzzle-loading rifle, his sons had given him another gift—intangible, yet priceless—the gift of the enjoyment and challenge of the hunt. Nowadays, when he goes to the range to shoot, his Model 70 Winchester Super Grade, rechambered in 257 Ackley Improved, stays home while the Hawken gets the practice. Next season, that is the way it will be: the flintlock will be used in the regular season as well. Already he is excited, thinking of the challenge. And perhaps he will find sleep as difficult the night before season opening as he did when a boy.

Surely the next hundred years will bring tremendous change—no one can tell what will take place or how. But the hunter fervently hopes that despite all else one of his descendants will be able to enjoy the hunt, with the Hawken in hand and great-great-great-great-great grandfather's powder horn slung on the shoulder. The gifts will have endured.



READING IS A FAVORITE pastime of Edward DeLay, 103, and a rocker by the coal- and wood-burning kitchen range is his favorite spot on cold days.

Ask Someone Older

By Ted Fenstermacher

“I GUESS you’d have to ask somebody older than me,” said Edward DeLay, retired Berwick RD 2 farmer, when asked how old he figured a hunter would have to be before he lost interest in the sport.

His answer has a lot of impact because DeLay, although still spry and alert, is 103.

DeLay has always liked the outdoor life. Perhaps that is one of the reasons the years have been kind to him.

Three years ago, DeLay received a plaque from the Columbia County Medical Society as he hit the 100-year mark. There was recognition from Pennsylvania’s House of Representatives and Senate, and from numerous others, and a testimonial dinner was held in his honor. He was pleased but a little puzzled about “all the fuss.”

DeLay, a retired farmer and native of Jackson Township, Luzerne County, both hunted and trapped as a youth.

“When I was a boy I used my father’s gun. When I was 15 I managed to buy a shotgun for myself. My oh my, that was a big day for me!”

DeLay has always lived on farms, including ones in Luzerne, Sullivan and Columbia Counties. “Thank heaven, I always lived where there was good hunting. It wouldn’t be much of a life for a man if he couldn’t hunt.”

He has lived on his Berwick RD 2 farm since 1929. He farmed it until 1945. Since that time his neighbor, Albert Hack, a dairy farmer, has farmed the DeLay property along with his own.

“I like to chop firewood and it keeps me fit,” said DeLay, and those living in the area see him chopping wood almost every day. “I don’t do so much regular hunting anymore but I do plan to take another crack or two at wild turkeys.

“I do a lot of groundhog hunting, especially here on our own farm. I like to hunt groundhogs for two reasons. It keeps me in practice and gives me a chance to get rid of one of the worst pests the farmers have.”

Admitting that he is “sort of sot in my ways,” DeLay explains he has always used a shotgun and “punkin balls” to hunt deer. He killed at least a half

dozen that he recalls, the last bagged when he was 97. He said, "You can't be too far away when you're using punkin balls, but the stalking and getting close is half the fun."

DeLay has been hunting small game "practically all my life. I wouldn't even try to guess how many rabbits and pheasants and the like I've brought home, but it's an awful lot." In regard to rabbits, he particularly recalls the snowshoes he used to shoot in Sullivan County.

"My legs really aren't what they used to be, but I'm still going after turkeys and I do knock off quite a few chucks here on the farm each year."

DeLay's hunting buddy is another man who appears far, far younger than his actual years. He is Martin Kelchner, also of Berwick RD 2, who is 83 and looks to be about 60.

"Nobody can make buttermilk pancake like Martin," explains DeLay. "They're nut brown and just right. I can eat those even when I'm not hungry." The cooking by Martin is usually at a hunting cabin and is done when the men are either hunting or huckleberry picking. DeLay continues to pick berries each year and, Martin admits, "It takes a good man to keep up with him."

There was one time that DeLay's



NEITHER DELAY, left, nor his hunting buddy Martin Kelchner, 83, let their age interfere with their favorite outdoor activity.

hunting days seemed doomed. Cataracts developed on his eyes. "Figuring there was no use fooling around, I had an operation." That was at age 93 and the results were good—as the groundhogs can testify.

Books in Brief . . .

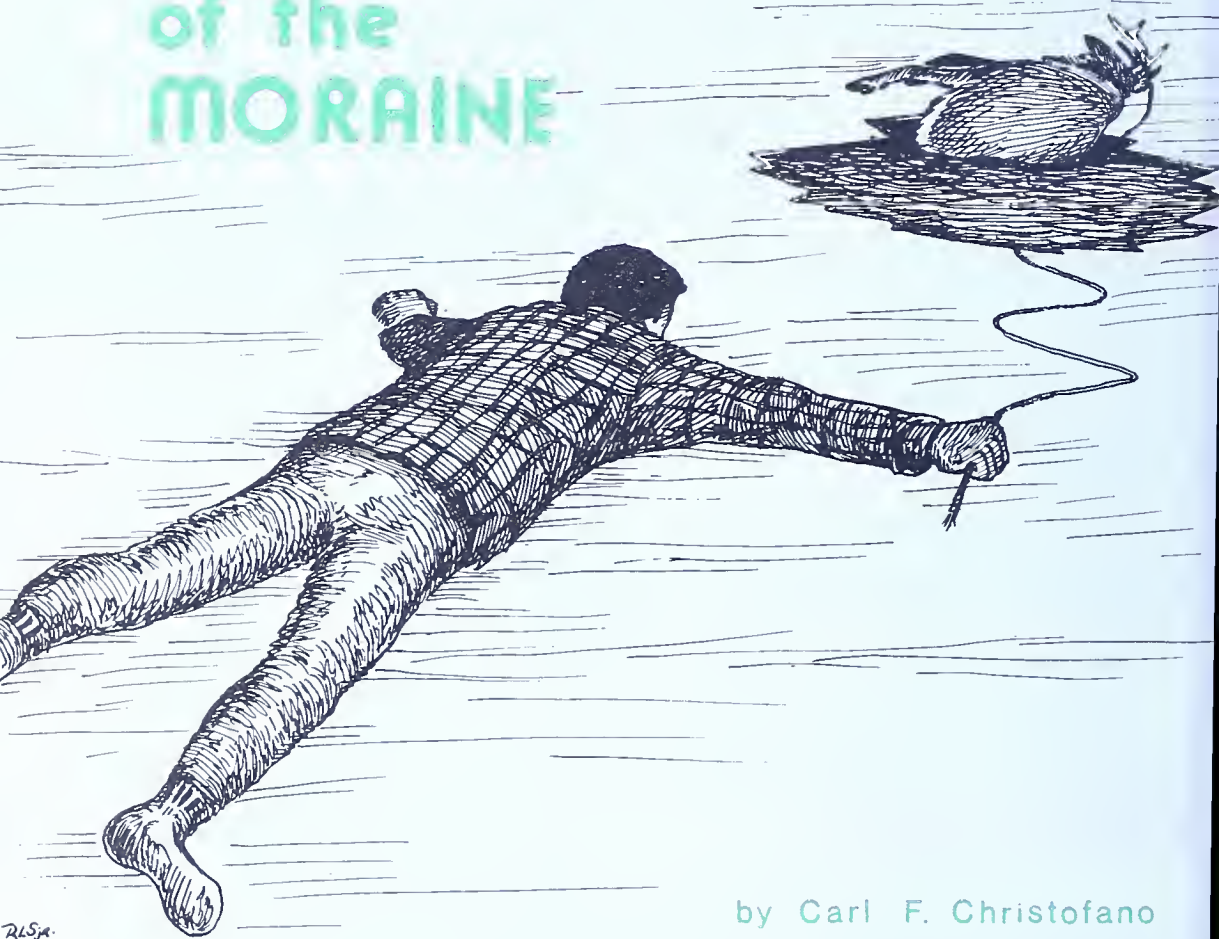
(Order from publisher, not from Game Commission)

Killer Animals, The Menace of Animals in the World of Man, by Edward R. Ricciuti, Walker & Co., 720 5th Ave., NYC 10019, 319 pp., \$12.50. The man/wild animal relationship is never what the Bambi-lovers believe; often, even domestic animals cause human deaths. Ricciuti, formerly curator of publications for the New York Zoological Society, recognizes that every animal fits some niche in the total environment, yet can still bring us up short with questions such as "Why should animals which threaten us or compete with us be kept around?" A different kind of book.

Complete Book of the Wild Turkey, by Roger M. Latham, Stackpole Books, Cameron and Kelker Streets, Harrisburg, Pa. 17105, 228 pp., \$8.95. An updating of Latham's classic account of the wild turkey's life history, management and ecology, with emphasis on Pennsylvania's role in bringing this magnificent game bird to its present numbers.

Goodbye Mountain Man! by Donald Jack Anderson, Summit House Publishers, Box 13, Lenhartsville, Pa. 19534, 112 pp., paperbound, \$3.96. A delightful look at the lives of Eastern mountain men such as Walter Arnold, E. J. Dailey and V. E. "Wildcat" Lynch, plus an inside view of rural Pennsylvania of a half-century ago. A small, but sort of special, book.

ICE BUCK of the MORaine



by Carl F. Christofano

Chance, fate, destiny. These are but a few words that describe an occurrence, a happening of some importance at some point in time. . . Merely words.

The deer hunter gives it a name, Luck; and a gender, Lady Luck; and that is probably the best description there is.

Lady Luck. A lady of many moods. When she smiles (which is seldom) a

buck is suddenly nearby. When she frowns (which is usually the way of it) the nearest buck is far away, somewhere high up on the next hill or deep down in the next valley.

Yes, a lady of many moods. I remember a time, not so very long ago, when there was a slyness to her smile and devilry in her eyes.

I remember it well . . .

It was Saturday, the seventh day of December, 1974.

"Dad! Somebody's by the oak tree!"

My gaze lifted and I peered down the hill through the treetops, but I couldn't see what Phil was looking at. I stepped to the side, nearer to him, and then I saw it: the big oak tree below and the small patch of fluorescent orange blazing through the branches.

It was 9:30 in the morning and we were standing on a wooded hillside well within the eastern border of Moraine State Park, in Butler County. The temperature was somewhere around 40, and several inches of old snow covered the ground. We had been on the move since dawn, slowly working our way westward into this particular area, a section of land made up of rolling woods-covered hills and open fields that cuts deeply into the east shoreline of Lake Arthur.

Over two hours of slow steady walking and now here we were—on a hillside peering down through treetops at a patch of blazing orange.

Somebody was by the oak tree.

It was where Phil wanted to be, where he had been that Monday, on the opening day of buck season, when his first-ever chance at a buck had suddenly arrived.

* * * *

Under the spreading branches of a giant oak tree the young boy sat, alert and ready. The Marlin 32 Special was at his shoulder, hammer back and ready to fire. His finger rested lightly on the trigger.

Below, to his left, the big buck moved, and once again the boy saw the quick flash of brown among the trees. The buck was still coming. Still following the fencerow. A few more steps and it would reach an opening in the trees.

The boy concentrated on that opening. He drew in a deep breath, trying to ease the pounding in his chest, the pulse beating in his ears. A few more steps. The boy waited.

The buck moved slowly, cautiously. It stepped into the opening.

He beaded fine, held low, just behind the shoulder. He squeezed and the buck lunged sideways several feet.

It stood there, head up and ears turning, ready to go.

Incredibly, the boy had missed. He worked the lever, ejecting the spent cartridge and chambering a fresh one. The sound of sliding metal was harsh in the cold still air. At the sound, the buck uncoiled. With one mighty leap it began running along the fencerow.

The boy had time for one more shot. One last desperate shot. Quickly he aimed at the brown form flashing in the trees. He pulled—just as the buck disappeared in the density of the trees ahead.

The boy stood up, his eyes fixed on the spot where the buck had vanished. He had missed his buck. On this, the first day of his second season of deer hunting, he had missed. Despondently, he slung the rifle over his shoulder and started forward.

Shooting broke out on the hill and the boy paused, listening. The shooting continued. It went on and on. When it ended the boy somehow knew that the buck was finally down. He went back to his seat. He leaned back, his shoulders pressing against the firmness of solid oak.

He would wait for his father to come.

* * * *

But that had been Monday. Now it was Saturday, and somebody was by the oak tree. Phil's face showed his disappointment.

"Don't let it bother you," I said. "There's something I've been wanting to do all this week, and now is as good a time as any. It involves a lot of walking, but we'll take our time—walk a while, rest a while. Feel like doing some more walking?"

"I guess so," he said. "But where are we going?"

"To the lake," I answered. "We'll move down into the valley, follow it until we come to the lake. Then we'll follow the shoreline around this hill."

Phil thought for a moment, then asked: "How long will that take?"

"Oh, I don't know. Three . . . maybe four hours. Like I said: we'll take our time. There are some good places down there along the lake, places thick with swamp grass and briar

tangles. Deer like to bed down in there. Maybe we can put something up. If that doesn't work—well, then we'll try something else. Want to give it a try?"

"Let's go," he answered.

We crossed the flat and came to the shoreline at the edge of the woods. There we rested for a time, and while we rested we talked about what we were going to do. Phil would move along the hillside, keeping within a hundred yards or so of the lake; I would stay low and move along the shoreline.

When we were ready to go on, I gave him one last bit of advice. "Remember," I said, "slow and easy. And keep your eyes open."

Phil walked up the hill and entered the woods. He returned my wave and we started off. I moved quietly into the woods. It was a fine morning for deer hunting. The air was cool and clear, and the snow was a marshmallow carpet that deadened footfalls.

Along its many twistings and bendings, down into dips and up over swells, I followed the lake's edge as it went on its long slow swing around the hill. Every now and then, when the trees allowed, I caught sight of Phil on the slope above. We had been on the move for perhaps a quarter of an hour when the woods opened up suddenly, and I stepped out into a narrow clearing.

Sudden Movement

I stopped dead in my tracks. All my senses were on full alert. Movement ahead. A sudden flickering. A quick flash just within the edge of vision.

Only my eyes moved as I scanned the clearing. It wasn't wide—little more than a dozen yards from the trees to the edge of the lake—but it ran along the shoreline for roughly 80 yards, to where the woods again closed in. Near the far end of the clearing a tall pine tree stood, a few yards from the lake.

I could see something brown beside the pine tree. A clump of grass, or a briar bush.

My gaze stayed on the clump.

And then my brain finally realized what it was that my eyes had been looking at for the last several seconds. That

was a deer, not a clump of grass. It was standing beside the pine tree, rock-still. The body was pointed my way, but the head was turned to the side. Its attention was fixed on the slope above. It had obviously spotted Phil on the hillside, and was now studying him, nervously.

My brain clicked again. There was a rack on that head. A high, heavy rack. I wanted to shout, or wave, or whistle—anything to attract Phil's attention. But I couldn't. If the buck became aware of me, he would surely break. Probably straight away.

One Thing To Do

No, there was only one thing to do: I'd try for him myself.

I raised my rifle slowly. The buck must have caught my movement, for he appeared in the scope looking straight at me—*right down the barrel!* He was impressive: big bodied, heavy antlered. Eight big points, carried high and proud.

The crosshairs steadied at the base of his neck. I slowly, ever so slowly, squeezed the trigger.

The 300 Weatherby Magnum boomed and jumped with recoil.

I blinked. There was no longer any buck beside the pine tree. Either standing or lying. All along the clearing, nothing moved.

And then I saw him again, a patch of moving brown between the pine tree and the lake. Instantly I realized what had happened. I hadn't missed. The buck had fallen backwards, into a depression I hadn't noticed earlier, and now was trying to get to his feet.

I worked the bolt and the rifle came back to my shoulder.

The buck was up now, and moving away; moving slowly, up and out of the depression, right at the shoreline.

I fired again.

The buck went straight into the air, twisting, turning to the right. He came down on the ice, feet-first. Now his feet were slipping and sliding, his legs going every which way. Then he collapsed. There was a *crack* and a *splash*.

My heart sank. The buck had broken through.

I was running now, toward the pine



NOW THERE was only one thing to do:
I'd try for him myself.

tree. Phil yelled something from the hillside and I stopped. "Dad! Dad! Did you get 'im?" he shouted.

"I got 'im," I yelled . . . I think I got 'im, I thought.

We reached the pine tree at the edge of the lake at about the same time. Phil was grinning with excitement. "He's a big one! Look at that rack!"

I looked, but I really didn't like what I saw. The buck was twenty yards from us, at the far edge of a small jagged hole in the ice. He was half on the lake, half in it. From the back of the chest forward he was stretched out on the ice; the rear half was in the water, submerged.

Phil's expression changed suddenly as he realized the situation. "Dad! What do we do now? How do we get him out of there?"

"I'm not sure," I said. "But we'll think of something. Here, hold this." I handed him my rifle.

Lightly, and with great care, I stepped down off the bank and onto the ice. One step . . . nothing happened. I tried another. And heard, or imagined I heard, a slight creaking. I jumped back onto the bank.

"That's no good," I sighed. "The ice seems firm enough along the bank, but further out it's bound to be weaker.

Let's see if we can find something that will reach out that far—something to crawl onto."

We scouted the area around us, searching for a long log or a fallen tree. We found neither. Returning to the bank, Phil said: "Maybe one of us could go for help."

"Not yet," I answered. "There's got to be a way." Maybe I was being stubborn, or foolish, (probably both) but the way I figured it, I was the reason the buck was where he now was, and it was up to me to get him out of there.

It came to me then, something I'd read somewhere.

Weight distribution! That was it: spread the weight out over the widest possible surface area.

Yes, I'd give that a try. But first I'd lighten myself.

Phil looked at me strangely as I stepped out of my boots and began removing my heavy woolen socks. "Hey," he said, "what are you going to do?"

"I'm going out after him," I said.

He looked worried. "I don't know . . . that ice doesn't look safe."

"It'll be all right," I replied, smiling. But his expression didn't change.

Off came the hunting jacket. Off came the goosedown vest. Then, with only a little hesitation, off came the Woolrich pants.

I was down to a thin pair of socks, thermal underwear, and a green plaid shirt when I stepped to the edge of the lake.

Nervous

"Dad, let's try to get some help."

I turned. "Don't worry. It will be all right." I glanced down at the pile of discarded clothes, and I thought: *If I do break through the ice—and don't drown, or go into shock, or freeze to death—and I do make it back to shore, then at least there will be some dry clothes waiting.*

"Rope!" I said suddenly. "I'd better take along some rope."

Phil reached into his jacket and pulled out a length of drag rope. He handed it to me. I tied one end into a slipknot. "Maybe I won't have to go all the way out. Maybe I can get a loop over an antler."

"Be careful," my son said.

I stepped onto the ice and went down to my hands and knees. Then I lowered myself to my stomach. I was instantly soaked. There was a thin film of water on the ice. No matter. I was stretched out on my stomach and the entire front of me was thoroughly wet, but I was only twenty yards from my buck. There was no turning back now.

I inched my way forward. As I drew near the hole in the ice, I moved off to the side. The buck was hanging on the far edge, his head pointing out across the lake; I'd have to approach from the side.

When I was three feet from the hole, and about five feet from the buck's head, I stopped. I dared go no nearer. I widened the loop in the slipknot. Then, with a flick of the wrist, I tossed it.

It missed. The loop fell to the ice just short of the nearest antler. I pulled in the rope and tried again. The loop went up and out, and came down over a main beam. I pulled, the knot tightened; it closed on the beam a little below a branching tine. It couldn't slip off.

Pleased with myself, I belly-crawled back to the end of the rope; this was turning out a lot easier than I had expected.

I pulled on the rope, strongly.

That was a mistake. The buck didn't budge, but I did. I went sliding across the ice—*straight for the hole!*

I must have left finger-marks and toe-marks behind as I came to a sliding stop, barely a foot from the jagged hole. Fool! I thought. Stupid crazy fool! Don't try that again!

Second Try

For an instant I stayed right there, afraid to move and afraid to remain. Then slowly, and as lightly as possible, I slithered back to the end of the rope.

I tried again—this time with a little less force. The results were nearly the same. The buck didn't budge and I went sliding on the ice, but only a few feet this time.

It was no good. I'd have to try another way.

Back on the bank Phil mumbled something about trying to get help. But I wasn't listening.

I was mad now, and more determined than ever. That buck was coming out of there, one way or another!

Again I crawled back to the end of the rope. Then I rolled over onto my back.

The ice creaked and groaned, but held.

Leaning back a little, I began tugging on the rope, pulling with short quick jerks. Slowly at first, inch by inch, the buck moved. Little by little, tug after tug, it started coming out of the hole.

And then he was on the ice. All of him. I drew in a long deep breath. It was over.

The rest proved to be no problem at all. Grasping the rope in one hand, I crawled back to shore, the buck sliding easily behind.

I climbed back into my hunting clothes. My undergarments were still soaked but I didn't mind—my buck was on the ground.

We examined the 8-point and found that both of my shots had connected the first entering high at the side of the neck and passing into the deer's upper body, the second taking it high in the right shoulder.

I drew out my hunting knife and went to work, and while I worked we talked. I told Phil about my coming upon the buck, and he told me his part.

The buck was soon field-dressed and tagged. I had just finished tying the drag rope, when I turned and saw Phil standing on the bank. I went over and stood by his side.

Far out on the lake sunlight glared, a cold white glare; and from that glare the ice ran away in all directions, smooth and flat, like some giant jewel that had been pressed down into a single level plane. There was a mar in the jewel, a small jagged hole, and in the hole the cold dark waters of Moraine could be seen.

"Dad," Phil said suddenly, "you've been hunting a long time and have had many experiences. But I'll bet this is one you'll never forget."

I thought of those long moments on the cold wet ice when I was sliding straight for the hole. I smiled. "That's one bet you'd win."



Opening Day's Best?

By George H. Block, III

THE OLD BED sagged in the middle as I shifted restlessly and I had to be careful or I'd roll toward Ed. It seemed like hours since that last story had been told and everyone had gone to bed. The interplay of a full moon and heavy clouds was casting an ever changing pattern of shadows on the wall. I kept staring at them, for every time I closed my eyes trying for the much needed sleep, all I could see was large bucks. They came to my imagination in all their heavy-antlered glory. It was incredible how they cavorted in my reverie. Maybe they were painted on the insides of my eyelids, but more likely they were the creation of anticipation. Tomorrow would be the opening of deer season, *The Day* to most hunters. On Christmas Eve a child may have sugar plum fairies dancing in his

head, but on the eve of the opener, we adult hunters can only dream of bucks.

The expectancy is understandable, as is the excitement, for the whitetail is worthy of our best attempts. After waiting almost a year, I am impatient to be in the woods. However, far too often the excitement turns to disgust late Monday afternoon when most hunters come in emptyhanded with heads low. The stories are sad but common: "Someone was on my stand!"—"I missed three easy shots!"—"There aren't many deer this year," etc.

The excuses are natural, but what amazes me is the fact that so many of these hunters consider their season over. I've been told many times that if you don't score opening day, you just aren't going to get a buck. Admittedly, most bucks taken are downed on the

opening Monday, but does this justify the feeling that we have a one-day season? When I hunt the second or third day, or even the second week, am I only out for a walk?

For example, during the 1972 buck season, I was hunting in Washington County with my buddy Ed Haley. Lunch time found us drinking coffee in the Block kitchen and discussing strategy for the afternoon. It had been one of those mornings when deer had been everywhere. The farm country we were hunting doesn't have the large



number of deer they have up north but ours generally run much larger. Our way of hunting is pushing and posting. One of us will post a likely crossing while the other moves slowly through the cover toward or around the poster. We alternate positions after each mini-drive. This morning we had seen a couple of dozen deer but none with antlers, and this is a high number for the Eighty Four area where I live. As is usually the case when we are seeing game, we were both in good spirits and decided to hunt a different place in the afternoon.

Less than a half-hour drive from my home put us in the Claysville area. Our first push would cover an area that was a small mixture of briars and thorn trees. Ed would post first. I gave him time to reach his stand and started slowly into the thick cover. After every two or three steps I paused to inspect every piece of cover in front and on

each side of me, for I knew deer are found with the hunter's eyes, not with his feet. Perhaps fifty yards from where I had started, I found a deer bed and my hand was still feeling its warmth when Ed's shot rang out. Watching for movement and waiting for my partner's call seemed like an eternity to me, but when it came I knew he had downed his buck. Every farm deer doesn't carry 10 points and this one had only 6, but it was in fine shape and would dress 135 pounds, which isn't bad by anyone's standards.

One buck in the trunk of the car and one to go. The rest of the hunt I would post, for Ed was now my designated beagle. For our finale I would take a good stand and he would beat the brush; this was the price he had to pay for scoring first. To get to the place I had selected to stand, I would have to cross 300 yards of open field. While I loaded my 270, hung my binoculars around my neck and checked my supply of Red Man, Ed strode rapidly away so he could circle toward me.

Finally I was ready and stepped across the low strand of barbed wire between me and the field. Imagine my surprise as I stood, one leg on each side of the fence, to see a good buck racing across the far end of the opening. My second leg swung cleanly over the wire and the rifle came to my shoulder in one motion. I fired. Sad to say, I missed and never saw that buck again.

Ed and I had seen two bucks in less than an hour in a county not noted for deer! What's more, it was Friday, the fifth day of the season. This was as good a day as any hunter could ask for, by far equal to most openers.

"Outhouse" Buck

The end of 1972? Hardly! The following Tuesday, my wife Eileen and I were hunting together, but it rained so hard we had to give up. We were thoroughly soaked, and as Christmas was just around the corner she decided we'd better do some shopping. We went home and got cleaned up, but before we left I placed my rifle, binoculars and license in the car, just in case. Sure enough, the weather improved in the afternoon and there was no way my

mind was going to be on shopping. I left Eileen at the mall and headed to an old deserted farm I knew of nearby.

The farmhouse and barn were completely gone. Old barn boards are in demand nowadays, and only the outhouse was left in its entirety, although it was lying on its side. It made a perfect stand to watch for Mr. Buck. I laid my glasses and rifle on the stately building and settled down at my favorite pastime, watching a hillside for deer. For the first half-hour nothing happened, but about 4:30 a deer appeared 200 yards below me. I rolled up my hat and placed it on my binoculars, forming a near-perfect bench rest. The position was beautiful and so was the 5-point buck I downed with one shot. When I first saw him I thought he had more than one antler, but who can be particular on Tuesday, the eighth day of the season? So 1972, the year I missed one with Ed, was also the year I got my "outhouse" buck.

Over the years I have shot my share of opening day bucks, but if the season were but one day long I would be very unhappy, for much of my best hunting has come later. In 1971, after a fruitless early season, I shot a large 10-pointer on Friday in the second week of the season ("Jinx Buck," January 1973 GAME NEWS.) Ed Haley and I both got our bucks on the second day in 1968 ("Ronnie's Dumplings," April 1976 GAME NEWS). My first buck was a 9-point taken on the first Friday of the season. I could go on and on.

All, and I mean all, of my larger bucks have come later in the season. This proves again the old saying, "All good things are worth waiting for." While the opening day crowd trims the

herd of the uneducated spikes and forkhorns, I wait for the larger-racked bucks that are smart enough to escape and only venture forth when things quiet down.

While success is important to the hunt, other rewards have much greater meaning. On Wednesday of the second week no one will take that stand you have planned on all fall. The moving hunter has less chance of chasing a buck to the road hunter who is too lazy to set foot in the woods. Solitude can be a priceless thing, and during the second week I have walked in fresh snow for miles without crossing another human's bootprints.

There is one aspect of late season hunting that may turn some people off. It usually takes hard work to be successful then. The deer herd has been disturbed, the bucks are much warier, and the lack of hunters means fewer deer moving. The hunter has less chance of someone else chasing a buck to him, and in most cases will have to move them himself. This can also be a blessing, for most humans take far more pride in that which they accomplish for themselves. A spike well earned is more of a trophy than a 10-point taken by pure luck.

Last season found both Eileen and me without bucks on Thursday morning. By Thursday night we had taken two bucks with two shots from the same stand within an hour. If we had quit in disgust Monday, neither of us would have scored. We had hunted the same area all day Monday without success. So don't tell Eileen that Monday's better than Thursday. She'll only laugh at you. *Any* day is a good day to hunt deer!

SOME OF BLOCK's bucks taken late in season as well as on opening day.





EARLE CHANDLER, 17, of New Bethlehem; his second buck. Michael Romanelli of Bridgeport and very non-typical whitetail from Montgomery Co.

ROBERT GENNISEN, Mount Union, killed Huntingdon Co. buck with 10 typical, 4 non-typical points. Jack Stitzer (white shirt) of Gordon with his Schuylkill Co. trophy.



Into the

PENNSYLVANIA can easily accessible hu
rels, rabbits, bear, pheas
on, and most of it is at r
numbers of hunters over
all. Some hunters never
tails bring many non-res
for its fine deer hunting,
but venison is only one m
find their other forms o
crunch back into the woo



EVELYN DEITZ shows first buck (not first deer!) in 7 years, shot in Tioga Co. Tony Pucci of Sweet Valley, right, with his Luzerne Co. whitetail.



JOHN KOSTIK Jr. of Throop (left) with 8-pointer from Lackawanna Co. Walter Pajak of Strongsville, Ohio (our columnist's brother-in-law) took his first buck in 23 years in Clarion Co. Huntingdon Co. yielded bucks below to (from left) Bob Culp, Mark Culp, and Ken Fullom of Marks Trail Camp.

STAN GR
(formerly
160-pound
early on op





CLIFFORD ROMIG, Elizabethtown (above left) proudly displays Union Co. trophy. Beaver Springs Hunting Club's (from left) Marlin Haines, Gerald Markley, Carlo Romig, Darwin Snook, Martin Fultz, and bucks.

AMM, 17, of [unclear] bagged his first [unclear] in Buck Co.



SAMUEL WEHOFFER, 83, of Pittsburgh took doe in rain near Butler Co. line.



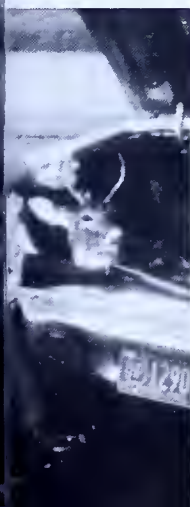
BRIAN MARKUZIC, 12, of Salina took a fine 9-point buck on his first day of hunting in Indiana Co. Beginners' luck?

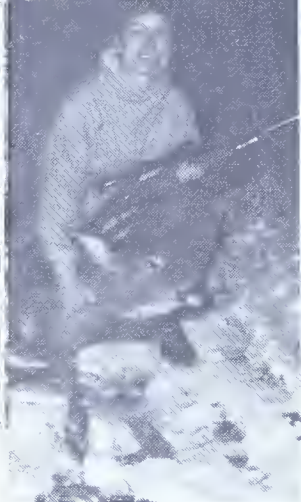
ods Again

be beaten for its variety of
ucks, grouse, turkey, squir-
lchuck—the list goes on and
rt drive away. But for sheer
pan of time, deer beats them
r anything but deer. White-
ur state, famous nationwide
f them get a deer, of course,
f success, and most hunters
satisfying enough that they
ter year.

JAMES HARTMAN of Elverson shows unusually long (16") spikes from deer he too in Berks Co., which dressed out at 140 lbs. Linda and Joseph Tomaszewski got 6- and 4-pointers on their farm near Fleetwood also in Berks Co.

Cornwells Hts. [unclear] downed this [unclear] shot bright and [unclear] in Juniata Co.

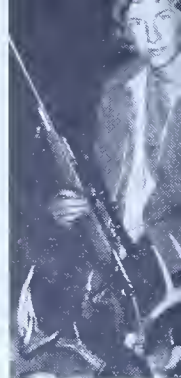




KATHY GONGAWARE, North Huntingdon, and Forest Co. doe. Mike Zarada, 13, of Dunbar (below) shows off his first buck, a Fayette Co. 6-point.



WHY WORRY Hunting Club members bring home the venison—and some respectable racks. Club is located in Franklin Co.'s Bear Valley.



SCOTT HUNTING CLUB MEL points fine 11-point rack on buck shot near Selin grove.



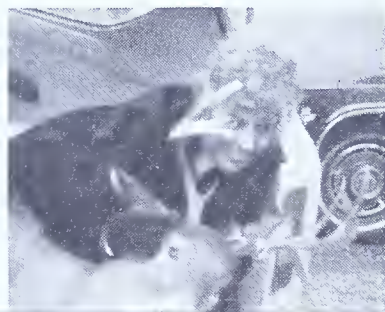
MARK FEATHERS, 15 (above right) of Claysburg, chilly but proud of his nice buck. David Pytel of Cairnbrook is just as proud of forkhorn; heavy snowstorm made tracking him down a "real effort."



FRANK MICKLE, 12, of Tidioute took his doe with flintlock on Game Lands 86, in Warren Co. His family's been shooting muzzleloaders for several years.

MARK NALE of Imbler took these two bucks in Bedford Co. during the 1971 and 1974 seasons.

EDYTH ROHRBAUGH, York, grins about her impressive York Co. buck. Jeff Wert, 14, of Stroudsburg (left) and his Monroe Co. trophy.





PAUL DIENER (left) and Dennis Rhoades each took 9-point trophies in Jefferson, Clarion counties.



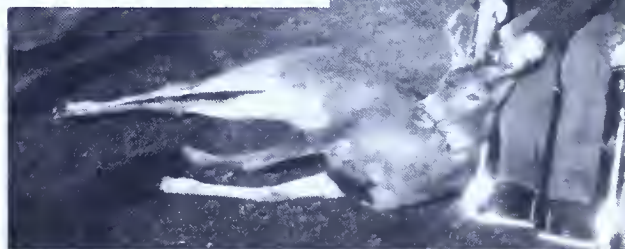
JAMES WYLIE of Kittanning, grandsons Todd and Johnnie Crawford display Wylie's Armstrong Co. trophy. John Chimera (above) of North East with non-typical 14-pointer from Erie Co.



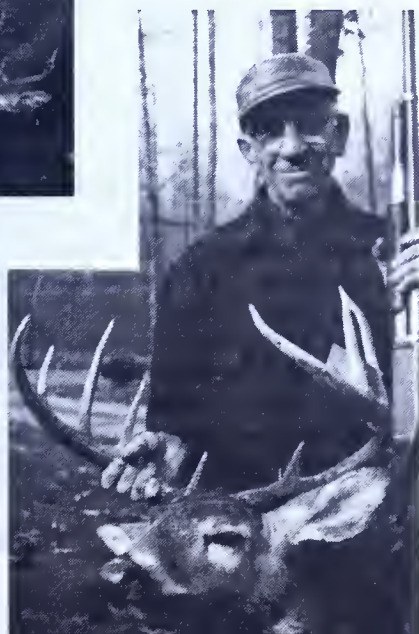
HENRY GLATFELTER, Landenberg, with Cameron Co. 10-pointer. Dr. Roger

Locandro (left) of Stockton, N. J., bagged Potter Co. whitetail. A game warden in N. J., he helped apprehend poacher while hunting in Pennsylvania.

HARRY MILLER, Latrobe, shot his fourth whitetail, 200 yds. into woods in northern Indiana Co., with rifled slug. This was first deer from wheelchair; he's also gotten rabbits, squirrels, his first grouse this year.



ED THOMAS (left) of Mechanicsburg killed buck while hunting at Twin Fawn Lodge, Lycoming Co. Frank Scheese, Woodbourne, took 175-pounder (dressed) in lower Bucks Co.



JASON BAKER, 13, from Altoona, with his first buck, from Huntingdon Co.



MATTHEW FARABEE (above), 17, of Amity.

Tioga Co. does fell to muzzleloaders of (from left) Clarence Winter, Barry Zeigler, Bob Myers.



When You Build a Better . . .

GREENE COUNTY—Modern man, with all his inventions and technology, still has a long way to go when competing with some of our wildlife. Recently I observed a young red fox mousing in a field near my home. In about twenty minutes, he caught and dined on eight meadow mice. I don't believe there is a mousetrap on the market that can match that record.—DGP Barry Seth, Rogersville.



First You Get Wet

We expect our Food and Cover Corps to perform a variety of tasks; but a job undertaken by Labor Foreman George (Tiny) Steck may be a first. On his own time, Tiny has been trying to teach a tame goose how to swim. At last report, the goose wasn't swimming, but had started running with a pair of lambs instead. So far, Tiny hasn't asked the rest of the crew for advice or help. If he does, I don't know if he'll get any. The rest of us don't want to be outfoxed by a goose.—Land Manager George Thomas, Shippensburg.

Bounties Ineffectual

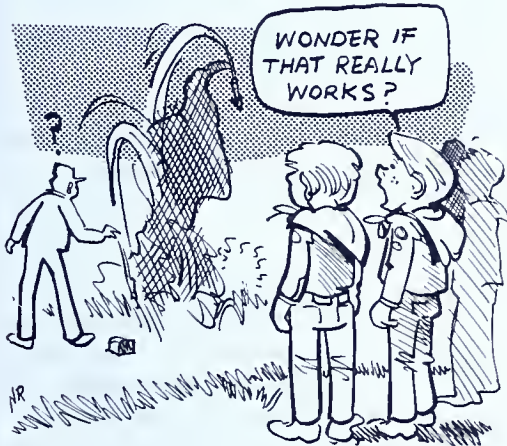
LYCOMING COUNTY—Some years ago the Game Commission abandoned the bounty payment system of predator control because our research findings indicated that the more of these animals that were killed, the more the species reproduced. Since that time some well-meaning sportsmen have condemned us because they believed that predators such as great horned owl and foxes decimate our small game population and that hunters should have an incentive (bounty payment) to kill more of them. In the past two years, due to the very high fur prices, foxes were hunted and trapped relentlessly in my district and a great number were taken. This year I have personally seen more foxes in the area than in the previous three years together. In my opinion, this observation once again proves that the bounty system was an ineffectual way of controlling predators.—DGP Bill Hutson, Muncy.

Another Opinion

CAMBRIA COUNTY—Recently Deputy Milavec was talking to a landowner in our Farm-Game Program. Driving down a lane one evening, this man saw a nice buck rubbing his antlers on a small tree. He stopped to watch and said that old buck was really going to town. He then noticed white strips flying every time the buck swung his head to the side. Finally the deer walked off, apparently satisfied for the time being. The farmer went to the spot and found what was left of a sign on the tree—It read "No Doe Hunting." Could it be that even the deer are starting to understand our deer management program?—DGP Dan Marks, Johnstown.

Rollin' Ravens

CUMBERLAND COUNTY—During September while on patrol along the North Mountain, I was privileged to observe four ravens putting on a flying exhibition for about 10 minutes. It looked like a re-run of a World War I dogfight. In my opinion, the raven is one of the most artful flyers in nature, even though he looks slow when observed cruising along his rock ledge home.—DGP Gene Utech, Boiling Springs.



The Big Fizzle

CUMBERLAND COUNTY—Land Manager George Thomas and I gave a program for a Scout Camporee at Lettermenny Army Depot. Part of the program included firing a rocket net used for capturing turkeys. Last winter, DGP Ed Clark and I caught some turkeys using this method. The net is a little tricky to set up, but it spread out just right that day, so I thought I was a past master with the net. After explaining to the Scouts where the turkeys should be in relation to the net and how the net works, I touched it off. Well, things didn't go right. One of the rockets just stayed in place and fizzled, the other two fired, but crossed in mid-air. Needless to say, the net didn't cover much ground area. When we went up to it, one of the Scouts looked at the tangled net and said, "Where do the turkeys go?"—DGP Jim Beard, Shippensburg.

Good Producer

Trees not pruned and sprayed will not always produce nuts and fruits every year, but I have a chestnut tree back of my home which has been loaded with good nuts the past two years.—Land Manager Don Parr, Tidioute.

Two For Who?

ADAMS COUNTY—I recently had a call from a gentlemen who said he had just purchased his archery stamp but did not receive a tag for his deer. I explained that the tag was attached to his regular hunting license. He said he knew that but if he used it in archery season what tag was he to use during the firearms season? I explained that he was allowed only one deer per license year. He said, "Oh!" and hung up. Maybe I should have told him I would come and tag it for him.—DGP Gary Becker, Aspers.

Well, It Was This Way

CUMBERLAND COUNTY—Deputy Dave Koppenhaver and I recently apprehended two motorcycle riders on State Game Lands. As we were settling the violation, I asked why they had not obeyed the "Closed to All Vehicle" signs which were prominently posted. The lead rider stated, "I was looking back to see if my friend was coming when I passed the signs." The second rider stated, "My buddy's bike kicked up some dust in my eyes and I did not see the signs." It's a good thing the sign did not say "End of Road—100-Ft. Drop".—DGP Jim Filkosky, Mechanicsburg.

A Real Long Trip

BUTLER COUNTY—Each year we have students in our Hunter Education courses who have traveled many miles to get the instructions, but recently in two of our classes we have had visitors from Ahwaz, Iran.—DGP Larry Heade, Butler.

Ulterior Motive?

BLAIR COUNTY—One morning on jacklight patrol, Deputy Chalmer Troxell and I observed a nice 6-point buck gnawing on a tree stump. Knowing this to be uncommon, we approached the stump and found that salt had been placed over it. Do you suppose some concerned citizen decided to start his winter feeding program early?—DGP Don Martin, Hollidaysburg.



Everybody Out!

BRADFORD COUNTY—DGP Ed Gallow was having problems with several bears coming into a cornfield in the New Albany area. He and Deputy Harold Haverly set a trap and the first night caught a young male bear. They tranquilized the bear, removed it from the trap, weighed and tagged it and took other vital information. Not wanting to remove the trap and take it to the release site, Ed and Harold put the drugged bear in the back of their Jeep station wagon. On the way to the release point, they kept checking the bear to make sure that he was still under the drug. While crossing SGL 36 and getting close to the release point, Mr. Bear stood up, looked at Ed and Harold, gave a grunt and jumped out the back window. What a picture that would have made: the bear jumping out the back and Ed and Harold jumping out the front—**SIMULTANEOUSLY!**—DGP Bill Bower, Troy.

Personal Tree?

Since the new tree stand law hit the press, our people have answered thousands of telephone calls relative to this subject. A long time in coming, this law should please many landowners and timber operators and, in a few instances, should reopen some land that was posted because of the indiscriminate construction on tree stands. Recently, sportsmen suggested that rather than pay a fine and damage fees after the fact, why not approach the landowner where you wish to construct a stand, show him the tree and offer him a reasonable price for it? If he wishes to sell, get a simple written deed and you are in business . . . Good landowner-sportsman relations? Definitely.—Conservation Information Assistant Fred Servey, Franklin.

Verbatim Report

LUZERNE COUNTY—I was busy preparing dinner recently when the phone rang. The caller exclaimed: "Oh, I didn't expect to catch you home. Do you know what I want to ask you? Bob, I can't hear you, I've got the Phillies game on. Just a minute. When's the next hunter safety course? Wait a minute and repeat that. The kids can't find a pencil." After two anti-acid tablets, dinner wasn't bad!—DGP Bob Nolf, Conyngham.

Greetings . . . Get With It!

JUNIATA COUNTY—Sam Varner was just commissioned as a deputy in my district. He received his commission and credentials at an orientation on a Sunday afternoon at the Division Office in Huntingdon. Just as he entered his front door at home, I telephoned him. I welcomed him to the "Black Sheep" group, congratulated him, and informed him that "he" had a highway-killed deer in Black Dog Valley to pick up.—DGP Bob Shaffer, Mifflintown.

Rabbit's Revenge

ALLEGHENY COUNTY—Plum Boro Police Officer Makin investigated an accident report in which the man stated that a rabbit ran from the side of the road and hit the tire of the car, causing him to wreck his auto. When Officer Makin asked what happened to the rabbit, the man stated it ran away into the brush.—DGP Sam Lockerman, Pittsburgh.

Simple Solution

CLINTON COUNTY—Deputy Rathmell and I recently answered a complaint about a bear getting into a large steel dumpster and scattering trash. Arriving at the scene, we found there was no latch or lock of any description on the dumpster. I told the owner he could solve the problem by putting a latch on the door. The gentleman wanted me to trap and transfer the bear instead. We finally did convince him that the best solution would be to lock the door in some manner to prevent the bear from entering. I think this is another typical example of man's unwillingness to live in harmony with wildlife.—DGP John Wasserman, Renovo.

Now Hear This

PERRY COUNTY—While instructing a Hunter Education class at Loysville, one young fellow asked me if I knew who I reminded him of. When I said no, he replied, "That sergeant on Gomer Pyle." Maybe I should try a softer approach.—DGP Butch Camp, Elliptsburg.

Long-Time Instructor

TIOGA COUNTY—A Hunter Education instructor in my district recently informed me that he has been giving courses to young adults in Pennsylvania since 1958. This active instructor is Cal Cobb of Wellsboro. We sure could use a few more like him!—DGP Lynn Keller, Wellsboro.

Sometimes You Win

Recently I picked up DGP Les Haines and took him to Game Lands 277 to see some of the waterfowl development my men have been working on. We walked to a newly constructed 18-acre pond where the crew had planted buckwheat down to the water's edge. The pond was full of waterfowl feeding on the buckwheat. A conservative estimate would be from 500 to 600 ducks and 40 to 50 geese. Les looked around and finally said, "Well, Jack, looks like you finally did something right."—Land Manager John Miller, Meadville.

Looking Both Ways

BRADFORD COUNTY—1976, being the Bicentennial year, seemed a good one to look back from, so I checked my August, 1966, Field Note and found that a sportsman had reported seeing six bucks in a field. This month I had a report of seven bucks being seen in one field. I wonder how many will be seen in 1986?—DGP Dean Rockwell, Sayre.



Easier to Hit?

MERCER COUNTY—While working at our exhibit at the Stoneboro Fair, a young lad came up to me and asked if I had any "Blind Goose" applications.—DGP Frank Zalik, Mercer.



Prolific Place

I have a bluebird house near my garden which during the past summer produced broods of five tree swallows, four bluebirds, and five house wrens. The house was cleaned out between each family.—Land Manager Duane Gross, Chapmanville.

A Matter of Taste

WAYNE COUNTY—In early September, I met Robert Stout of Freeland, along the Delaware River. Mr. Stout, a noted ornithologist, and I were treated to an aerial and fishing display by a lone osprey. Moments later, two more ospreys were sighted. We considered this a memorable day because ospreys have been scarce in this area for years. Bill Minnick, Stout's companion and a very knowledgeable outdoorsman, arrived on the scene and reported that he had sighted a bald eagle earlier about two miles upstream. Two elderly gentlemen who were camping nearby and listening to our enthusiastic conversation took action. One man took to his boat, without any fishing tackle, and headed upstream, presumably to see the eagle. The other took another boat downstream with rods, bait and bucket. He commented, "I've seen enough ospreys and eagles in my lifetime to do me; what I need is a mess of eels."—DGP Fred Weigelt, Galilee.

Determined

MONROE COUNTY—Wesley and Phyllis Dotter, who operate the Windy Hill Quail Farm, Kunkletown, had a large number of extra eggs and Wes disposed of them in the woods nearby. The following day he noticed six dead chicks under the elevated pen. He wondered how they'd gotten there since it was impossible for the birds to have fallen through the bottom of the pen. As he continued working around the pen, he saw a male bobwhite fly up to the area and to under the pen. The large male bird had a young dead chick in his beak and was flying up against the bottom of the pen in a futile attempt to get the newly hatched bird in. After several attempts he dropped the chick and flew back into the woods, only to return with another one in his beak. This continued through another four chicks before the male bird finally gave up. This is the most classical case of parental concern in wildlife I've ever heard of.—DGP Dave Overcash, E. Stroudsburg.

Slight Miscalculation

SOMERSET COUNTY—Believing I'd kept my file cabinet in pretty good shape, I figured it would take me about two hours to clean it up in preparation for retirement after 28 years of service. It took me two days to get it ready for turn in.—DGP Ed Cox, Somerset.

Got Yer Goat

WESTMORELAND COUNTY—Deputy Joe Cipra received a call from the local police requesting that he come out and take care of a deer injured by an automobile. Joe responded and found a most peculiar deer with a leg broken just above the hoof. This odd specimen turned out to be a goat. Joe transported the animal to a veterinarian, where it was cared for, and then spent several hours searching for the goat's owner, who was very appreciative of his efforts.—DGP Tim Flanagan, Mt. Pleasant.

CONSERVATION NEWS



By Ted Godshall

HARD HUNTING HUNTER

George A. Hunter of Laughlintown celebrates his 101st year and his 89th year of hunting with a license paid for by the staff of the PGC's Southwest Division. Hunter's wife, who died in 1970 at the age of 89, hunted with him for many years; Hunter believes she was Westmoreland County's first licensed huntress in 1913. She ran a boarding house for hunters. Their surviving children include four daughters and three sons. Celebrating the "Hunter Centennial" above are (from left) John Badger, CIA; George Church, Pittman-Robertson Area Leader; Bill Hunter; George Hunter; Bill Shaffer, LMA; and Don Madl, Supervisor.



50 Acres Per Day for a Half-Century Plus

"Pennsylvania's Wildlife Conservation History" says that the Game Commission received authorization to purchase acreage for State Game Lands in 1919, and that the first purchase, in Elk County, was made in 1920. A recent PGC announcement shows that total acreage in State Game Lands now exceeds 1,175,000 acres. This prompted me to do a bit of arithmetic which indicates that over the past 57 years—day in, day out, every day of every year—the Game Commission has been buying land for wildlife management and to provide hunting areas for sportsmen at the rate of over 50 acres per day. This is certainly a record Pennsylvanians can be proud of.—*John P. Dzemyan, Sinnemahoning, PA.*

Days of Yore

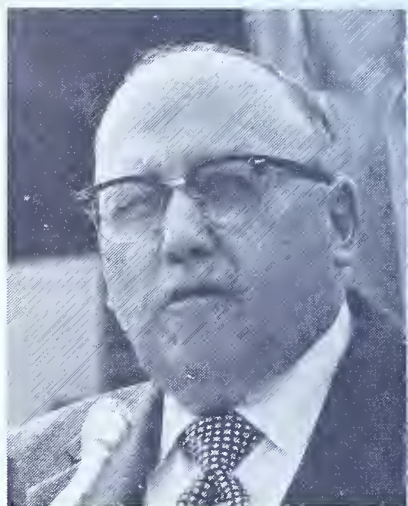


SOME OF SOUTHEASTERN ELK COUNTY'S western elk, introduced to replace native elk lost in late 1800s, are shown in 1922 photo. A small protected herd remains there today.



FORMER COMMISSIONER Carroll Hockersmith, Shippensburg, was honored by the Franklin County Bird Dog Club, who named their amateur shooting dog stake after him. A rotating trophy was donated in Hockersmith's honor by Slim Lytle. A pioneer in introducing the springer spaniel to the U.S., Hockersmith has been active in several Pennsylvania dog clubs. He served on the Commission from 1958 to 1965, and was vice-president in 1964. From left, Tom Archambeau, field trial chairman; Don Huller, president; Hockersmith; Lytle.

COMMISSIONER ANDREW LONG, Shamokin, has been named All-American Trap Shooter, as co-captain of the Veterans National Trap Team. Only the country's top ten shooters are eligible for the honor. He had the high overall score for the veterans' division in 1975. Long has maximum handicap and shoots doubles. He has served on the Commission twice, 1953-1961 and 1970-present, presiding in 1973-74.



COMMISSIONER Robert E. Fasnacht of Ephrata was inducted into the Pennsylvania Federation of Sportsmen's Clubs' Hall of Fame at their annual fall banquet. Active in sportsmen's organizations for many years, Fasnacht was appointed to the Commission in 1965, and served in the office of president during 1969 and 1970.



THE PHILADELPHIA FEDERATION of Sportsmen's Clubs recently honored Commissioner Edwin J. Brooks, of Lansdale. At their meeting in Philadelphia, the group presented him a plaque in the outline of Pennsylvania, "in recognition and grateful appreciation for your dedicated services to the sportsmen of Philadelphia County." Brooks has been a Commissioner since 1969, serving as president in 1971 and 1972.

Outdoor Wildlife Learning

By Bill Einsig



Nature Games

The People Puzzle—Games are fun—and if a game can be used to illustrate a point, pose a question or create excitement, why not use it? Many kinds of games and novel ideas are available and are not necessarily limited to the elementary level. In fact, most games can be used at any level by simple modification of rules and tone of presentation. Even adults can have fun with what is supposed to be an elementary-level game.

For example, I recently saw a group of adults play an engaging game many elementary teachers call *The People Puzzle*. Ten or twelve people stand in a close group and reach across to clasp hands with two other persons (but *not* those immediately next to him). The group is all linked in a twisted knot of arms and bodies. The objective is to unravel the knot without releasing hands, and spread into an open circle. Believe me, some of the twists and flips were pure genius!

Besides being good fun, the game has a number of useful aspects. It's a great ice-breaker. You really get to know someone while he's bending your arm to the breaking point or she's climbing over your back to unravel that confounded knot. It's a great socializer with kids or adults and helps to develop group leadership and cooperation. Another benefit is that it requires some physical exertion and provides exercise but can be used almost anywhere—on the lawn or around a campfire. Finally, with a bit of imagination the knot could be used to illustrate an ecosystem. Before the group forms, assign roles to each player and tag each as a producer (oak, grass, sumac, etc.), a

consumer (mouse, squirrel, fox, deer, etc.) or non-living component (sunlight, rainfall, temperature, etc.). Now the *People Puzzle* is an *Eco-People Puzzle* and the concepts of inter-relatedness and community dynamics are well illustrated. After the game, sit down and discuss how the game compares to a real ecosystem and how a move of one factor causes changes in other factors as well. Thanks to Nancy Ferguson of West York Junior High School for this good idea.

Colored Toothpicks—Another game can illustrate the concepts of natural selection and adaptation. Equal numbers of toothpicks are dyed green, blue, red, orange or yellow, mixed together and cast over a section of lawn prior to the start of the activity. The students are then given time, perhaps a minute, to collect as many as they can. Some small prize can be given to the winner; then total the number of each color toothpick. Brighter colors should be more numerous, with fewer greens and blues which blend in with the grass. Discuss the ideas of adaptation, protective coloration and breeding potentials of the various toothpick groups and relate to a real ecosystem. After the discussion turn the students loose and, just for fun, see who can find the most of the remaining toothpicks with another small prize for the winner.

Board Games—A number of available board games deal with environmental topics. Some of the best have been produced by Urban Systems, Inc. Essentially on the upper secondary level, some of the games would be difficult to adapt to average elementary classes but they are outstanding for the groups intended.

One of their games, "Smog," deals with the problems of air pollution in four adjacent towns. Students assume roles of town administrators and are forced into a series of decisions that have distinct ecological, political and economic consequences. Each Administrator has options on transportation, solid waste management, land use and community growth. Periodically, the record of each administrator is evaluated and the top manager is the one who has achieved the most acceptable balance between the various alternatives. The game is realistic and is the source of a never-ending series of dilemmas, frustrations and—most important—insights.

Other games in the series include "Ecology," "Dirty Water" and "Population." All are worth a serious look, for they represent a unique approach to the kind of interdisciplinary view we need for a fuller understanding of our environmental problems. For more information on the games, contact Urban Systems, Inc., 1033 Massachusetts Ave., Cambridge, MA 02138.

A Book of Games—It's always nice to have a book that is full of ideas and projects for youngsters. One I like is *Learning About Nature Through Games*, by Virginia W. Musselman. This little book is simply jammed with clever fun-things to help young minds learn about nature and have a good time doing it. Scavenger hunts, smell walks, tasting tours, and nature quizzes are but a few of the ideas that are outlined in such a way that the game can be remodeled to fit almost any class, any situation. Fun for you and your

children. Contact Stackpole Books, Cameron and Kelker Streets, Harrisburg, PA 17105, for more information.

Any Games Out There?

If you have a favorite game that works well for you, OWL would like to hear about it and share it with other readers. In fact, OWL likes to hear from readers with any kind of idea that makes education more fun and more effective. Address letters to: William R. Einsig, 1912 Karyl Lane, York, PA, 17404.

Recycled Game News

Over the years, back issues of GAME NEWS have accumulated in the warehouse. We would like to get the best possible use from these and feel that the schools would be excellent outlets for them. Many specific articles can be tailored to your class. Some issues are not available (for instance, July 1976), but most recent ones are. Scan the index found in each December issue to determine which ones you might best use, then send your request to GAME NEWS, Box 1567, Harrisburg, PA 17120. One classroom quantity (30 copies) will be sent free. Additional sets will require a 50¢ fee to cover postage and handling. *Mailing must be directly to the school.* Unless directed otherwise, we will make substitutions for unavailable issues. Here's a fine chance to get valuable reading material. But don't wait too long—supplies should go fast.

CONSERVATION CREED

I will pledge myself, as a responsible human, to assume my share of man's stewardship of the natural resources of the earth. I will use my share with gratitude but without greed or waste. I will respect the rights of others and abide by the law. I will support the sound management of the resources we have despoiled and the preservation of significant resources for posterity. I will never forget that life and beauty, wealth and progress depend on how wisely man uses these gifts—the soil, the water, the air, the minerals, the plant life and the wildlife. This is my pledge.

WOODLAND THOUGHTS

BY LOU HOFFMAN

Wildlife Education Specialist



We've come full circle again. The frost signals a chilly start to the hunting year. The foliage tips a splashy salute, and human veins are perked by the blood red of the maple. Although each season hides her beauty to those who won't come look, autumn is generous, even to those with apathy.

But there's no apathy in hunting. It's a rich, sensory experience. There is life . . . even in the death of a deer.

But hunters are sometimes apathetic about their sport, and that concerns us because nothing is certain when things are taken for granted. Yes, the hunter's circle has come full again and it's time to ponder those thoughts just collected. They may center around incidentals to the hunt, like wind blowing through pines. Or maybe involve the animal taken. In any case, we need to dissect our actions and weigh our deeds. If we don't, the hunt might not be part of future falls.



WINDS BREWING through white pines produce a healthy tonic. Unlike the cone-wrapped seeds that fall seasonally, this windy brew isn't confined to a certain time. I first remember drinking these sounds as a boy on a small hill behind my grandmother's place, and while dove hunting on the first day of this autumn I recalled those times. Closing my eyes in the cool of the evening, I thought ahead to the memories I'll find on a deer stand. Funny how the incidentals add to this thing we call hunting.

Walking back to the car, I admired the way the setting sun pierced a sky more typical of those seen at the end of a pheasant hunt. But that is still, at this writing, a month away. The clouds reflected a steely gray light and the air was brisk. Tiredness was chased from mind and muscle, and eight hours of desk time seemed long ago.

The chill was only partial though, unlike in later seasons when it will penetrate to fingers and feet and be downright uncomfortable. Now that chill touched my face in a fleeting way, and exhaling I noticed a vapor. The sensation around my nose was heightened by a pleasant discomfort.

The sun was just about gone. Three weeks ago that would have been a relief; then even short sleeves didn't seem to help. Now a thermal top beneath my khaki shirt felt good. Almost ready to leave, I noticed three



Hunting involves individuals.
... Individuals aren't im-
portant . . .

doves coming out of the rays of the falling orange sphere. They were low, just over the corn. They've done this before and succeeded. But tonight my 7½s intercepted the path of one. At that point I became more than a watcher. His death made me a hunter. I thought some more, thoughts that challenged and taxed my actions . . . but also thoughts that enriched this experience we call hunting.

Hunting involves individuals—individual animals and individual people. Individuals aren't important. Let me clarify that remark.

The dove that fell to my gun will not be missed by his kind. The gobbler I took last spring didn't represent a vital reproductive link either, and neither did the deer last fall. They were all individuals, and populations are not dependent upon them. Their societies will not be drained by their removal any more than mine would be hurt if I died. When individuals become important, that's a danger signal to the population. Whooping crane No. 0678-3 is significant; his species is endangered.

Now that's a cold approach to hunting, one that the non-hunter doesn't understand. If we stop with just that explanation for our behavior, it's cold, period. There's more to hunting than biological rationalization. That only justifies hunting. *Why* we hunt goes beyond biology.

The dove that fell to my shotgun was about four months old. The rosy iridescence, slate-colored cap and white tear-drops beneath his tail showed it was a male. His primary feather replacement gave clue to his age. To me, he was beautiful. But beauty is a mood seen through the eyes, created in the mind of an individual. In that sense, the individual dove is important.

The caring of the hunter was expressed by Aldo Leopold when he said, "Were we to have disappeared and the passenger pigeon remained, they would not mourn our loss. Therein lies man's superiority." The ability to contemplate significant individual thoughts about insignificant individuals—the hunter included—is an outstanding perception experienced through hunting.

A good hunter is a student of his pursuit. He's a naturalist, he sees the total



Wild things cannot be possessed any more
than can starry skies or wintry sunsets . .



Nature's designs add many incidentals to the hunt . . .

scheme. The dove and the deer are reduced to a possession that is added to the larder of the hunter. But in reality, wild things cannot be possessed any more than can starry skies or wintry sunsets. The north wind can't be owned.

The decision to kill an animal is personal. In a democracy it is a value judgment that is valid. But the intimacy the hunter finds in nature isn't sacred anymore. Why hunters hunt should be shared more freely, else grandchildren might not share these good fortunes. Traditions are nice but time changes all, and the hunter must be attuned not only to nature, but also to the moods and attitudes of his society.

Summarizing his development as a hunter, Mel Ellis, who began hunting during the Depression, put it this way: "If you have never been a hunter, you cannot understand about these things which send men out to kill. Maybe if the difference between eating bread or having a nice coot stew was one shotgun shell, you might understand how it sometimes is with the hunter. And still, by the same token, if you have not formed some sincere friendships with the wild ones, likely you cannot understand either how some people can tolerate absolutely no killing—little matter the circumstances. So for me what will tomorrow bring? Well, I've had the best part of a hunter's life, and also the best part of a dedicated nature lover's life. And

whatever I do, this I know: I am glad it was my privilege to live on this earth. I am glad to have met the wild ones with a gun in my hands, and I am glad that I have met them offering nothing but life. I am glad about it no matter how it turns out—whether I hunt or not—because I have discovered that in them, the wild ones, there is a little of me and I am sure now that in me there is more than a little of the wild ones."

Like the wind through the pines, hunting is made up of incidentals, not the least of which is the animal taken. But there's more than just that, and for each there are special thoughts, some drawn from sunsets and some from unseen things. Nevertheless, they are there, and their mystery adds majesty to the natural world the hunter shares. Besides, when your feet are on the soil your head is a bit clearer. Hunters walk the earth and feel her pulse. Their feet are on the soil. They understand.



Hunters walk the earth and feel her pulse . . .

DECEMBER, 1976

JUST FOR YOU, TWO BOOKS



By Susan M. Pajak

WOMAN IN THE WOODS is a 256-page pocket-size book delightfully expounding upon a woman's place in the woods; *your* place in the woods. Within its 4×6-inch pages, author Kathleen Farmer is determined to sneak the entire female population out of their four-walled, sauce-spotted kitchens, sit them down on a moss-covered log in the wilderness, and then beg them to breathe something other than cleaning solutions, dust, or diapers.

Mrs. Farmer, who now resides in California, formerly of Jackson Hole, Wyoming, and Cincinnati, Ohio, feels that too many women are missing a beautiful part of life by passing up the outdoors, mostly because they were not properly encouraged to begin with and then not properly instructed as to what to do when they got there.

To help overcome pre-outdoor fears, anxieties, and prejudice, Kathleen first encourages indoor women to participate in outdoor life, then explains the problems that might be encountered and offers worthy solutions.

Well-written and highly informative, this little publication, with a scattering of B&W photos included, covers such subjects as retaining femininity, outdoor

comfort, camping skills, hunting, fishing, etc.

What *Woman in the Woods* emits is confidence . . . in yourself . . . that you, too, can and should enjoy the outdoors.

Woman in the Woods, by Kathleen Farmer, Stackpole Books, Cameron Station, 1000 North Third Street, Harrisburg, Pa. 17102. Price, \$2.95.

For another fireside reading treat come along with Mary Leister . . . and tent caterpillars . . . and a always-pregnant Argiope . . . and a hot flicker's nest . . . etcetera . . .

Mary has married into book form 50 nature columns she had written and published in the *Baltimore Sunday Sun* over the past few years. The hard-cover book is entitled *Wildlings* and is 184 pages in length with selected B&V photographs.

In *Sleeping Beauty* story-fashion Mary takes you by the hand and goes together, crawling on hands and knees through grasses, rampant honeysuckle and thorn-wicked greenbriars, you can observe *the enchanted frog* . . . in a secret spring, in a very secret spot in the woods known only to Mary and you, and Kela, her Great Pyrenees . . .

(Don't tell Mary, but the frog is real, and it also *rib-its, rib-its!*)

Mrs. Leister, once of western Pennsylvania, now of Maryland, has been allowed the gift of observing in depth the every day doings of Nature's forms—birds and bugs and things—and then is able to explicitly relate these activities to a prospective reader who might never before have realized such wonder.

For example: "Drama on a Wooded Fence" finds Mary painting the old fence along her house when a gravid green-bronze mantis alights on the next unpainted picket and begins to watch her.

GIRLS, GUNS, & GAME...

While each eyeballs the other, a plump spider proceeds to build its angular, webby home at the end of another picket. After most of the web is completed a wrong-way-Corrigan fly blunders onto the web from which there is no escape ZAP!

No sooner has the spider licked its chops over the fat-free fly supper than the mantis swipes up the bulging spider and begins its evening meal, eating the spider slowly and deliciously as though it were a slice of cold watermelon on a hot fourth of July. (Ha! and Mary thought the mantis was watching her!)

In the next few paragraphs, Mary wonders in wide-eyed words if anything is going to come along and eat her. The food chain ends there, says Mary, happily, but asks the reader if

the mantis thought it ate only a spider or if it knew it also ate a fly?

Mary does not hedge about the life and death of Nature's creatures and says so, in plain English. She unconditionally understands, and competently conveys to the reader, that what is created—in egg cases, shells, or placentas—must, someday, cease to be.

Before that time, however, Mary skips along with Mother Nature and, hopefully, you.

Wildlings by Mary Leister, Stemmer House Publishers, Inc., 2627 Caves Road, Owings Mills, MD 21117. Price: \$8.95.

* * *

Merry Christmas! For a quick Xmas decoration and/or club gift, select tall, perfect spikes of teasel. Shake out any seeds. Lay on newspaper in ventilated garage and spray paint any color you wish. White, lilac, yellows, blues are attractive. Dry. Arrange in large floor vase.

* * *

Recipe: Stir-fry shredded cabbage in large skillet with good butter, squirt of water, salt and pepper. Add about two cupfuls cooked wide noodles. Mix. Serve at once.

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CHRISTMAS IDEAS

by Les Rountree

ONE OF THE benefits of attending an outdoor writer's conference is a chance to see and sometimes use new products. Nothing substitutes for honest to goodness backpacking with products that you may be writing about in the future.

The annual conference of the Outdoor Writers Association of America in June of '76 was held in that ideal outdoorsman's state, Colorado. Snowmass was the host village. Most of the week was spent in meetings and workshops, but there was time to catch up on the doings of friends you see only once a year. After a week of talking and listening we were ready to get out in the "real" world of Colorado. I jumped at the chance to go on a short backpacking trip with the Hirsch-Weis people who make Stag Brand camping equipment.

Base camp for our adventure was in the White River National Forest in Eagle County. We (16 writers) were issued tents and sleeping bags as we arrived and all gathered around the company men to watch them erect the two-man Igloo model tent. I think they made every mistake in the book, but it could be that 16 writers snapping hundreds of pictures made them *slightly* nervous. Anyway, we finally chose tent-mates and started making our own mistakes. I didn't time the procedure on that first evening but on the second, when we were thoroughly tired and hungry, my tent-mate and I did it in 10 minutes flat. The fly even stayed up, although the sticks we found to prop it up were of uneven lengths. The lightweight nylon tent weighs only about 8 pounds complete with stakes, poles and fly, comes apart as easily as it goes up, and fits into a small stuff bag.



WITH PLENTY of supervision, one of the writers at Colorado convention site puts up Stag two-man "igloo" tent.

The tent is roomy and you can change clothes inside. Two sleeping bags fit comfortably inside and still allow enough room for the pack.

Readers know how much I like down sleeping bags, so I was eager to try the Fiberfill II Cascade model bags. They are tested for 15 degrees above zero and I was toasty both evenings, although it was below freezing during the second night and water standing in a cup had a thin skim of ice. The bag weighs about 5 pounds—a pound or so more than a 15 degree-rated down bag. There is one big advantage of Fiberfill; if it gets wet it will still keep you reasonably warm and will dry out quickly. Goosedown, when wet, loses most of its insulating qualities and dries very slowly.

Most of the writers found the back-

pack, Stag's 4 + 5 model, very comfortable. In fact, GN editor Bob Bell liked his so well that he purchased it and has been tramping the hills of Pennsylvania with it this past fall. The 4 + 5 features a large, horizontal pocket at the bottom that carries a sleeping bag nicely (or you can tie it on below the bag if you need the pocket for other items). Two large, upper compartments feature vertical zippers. Two outer pockets on each side and a map pocket complete the assembly, plus a rod pocket on the side to securely lash down fishing gear. The pack and frame weighs about 4 pounds and is navy blue.

I tied the two-man tent (in its stuff bag) on top of my pack beneath the main flap. It was the heaviest item I carried, and packs are easier to tote when the weight is high. It stayed put even though we climbed from a base camp at 9000 feet to a lake at some 13,000 feet. For more information and prices on the Stag equipment, check your local camping stores or write Stag Brand, 5203 S.E. Johnson Creek Blvd., Portland, OR 97206.

I discovered how useful one of those Sierra Club cups are when one of the snafus on the trip involved some missing paper cups. A fellow writer just happened to have an extra cup and gave it to me. It fit perfectly into the side pocket of the down vest that I wore most of the time. I supplied trail water for several writers by having it so handy. In camp I could heat my own coffee water by putting the cup right on the grill. When we returned to base camp and I had to change clothes in a tent to catch a plane, I even took a sponge bath with the cup. Most outdoor catalogs list them for less than \$2.

Other Xmas Ideas

If you like to eat smoked food as much as I do, you won't find this gift item too expensive. You could give it to someone else in the family and (ha ha) enjoy it too. It's the Smoke 'N Pit Water Smoker. I'll admit that's a long name for something, but that's the best possible way to describe it. This strange cooking unit is a smoker which can also be used as a regular charcoal grill, and

by filling the internal water pan and allowing meat to cook for a time, you end up with juicy, tender meat that is heavily laced with a smoky flavor.

Charcoal briquets can be used but real charcoal and a few hickory chips add still another dimension. In short, the backyard chef can do just about everything except bake a cake in the Smoke 'N Pit from Brinkman Corp., 4215 McEwen Road, Dallas, Texas 75240. Price is \$59.95.

I've long been encouraging outdoors-people to assemble their own pocket survival kit. A lot of us mean to but we never get around to it. Then another year passes and it's deer season or time to take our yearly trek into some remote area (maybe only five miles from home) and we still don't have our kit put together. The Semco Co., 32 Woodridge Rd., Durham, NH 03824, has done it for all of you lazy ones. . . . and it makes a dandy gift item.

This kit is called the Boony Box (what else?) and measures only 2 x 4 x 1 inches. About the size of a pack of king size cigarettes, it'll easily fit into a shirt pocket. Priced at \$13.95, it contains: a Taylor compass, Flint Fire starter, steel striker and tinder, moleskin and adhesive strips, metal mirror, signaling whistle, aluminized blanket, 3-foot lanyard, measuring scale and instruction sheet and some extra space! How they crammed all of that stuff into that little box is beyond me but they did. Besides all that, it floats.

A hunter's bucket seat (for the duck hunter who has everything) is available from Covey Corporation, P.O. Box 1317, Houston, TX 77001. This tough plastic seat weighs 8 pounds and stands 19½ inches high. Equipped with two sturdy handles for dual carrying, the bucket seat also has a web shoulder strap. The 5-gallon capacity will hold food, beverages, and additional equip-

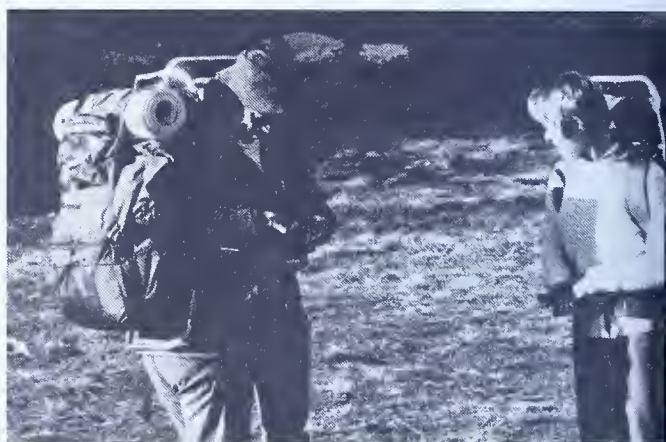
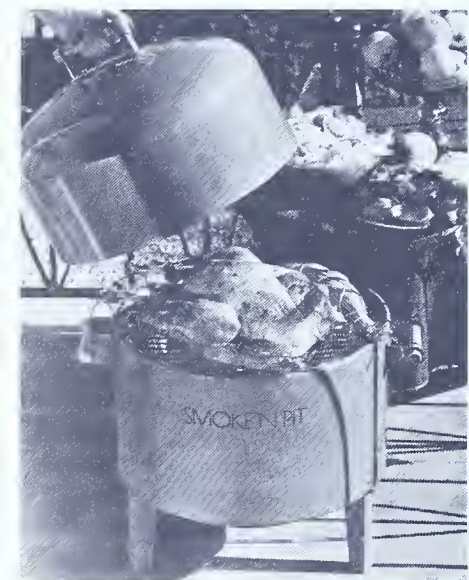




WATER-resistant Sportsal Canoeepac fits in most 14' or longer canoes.



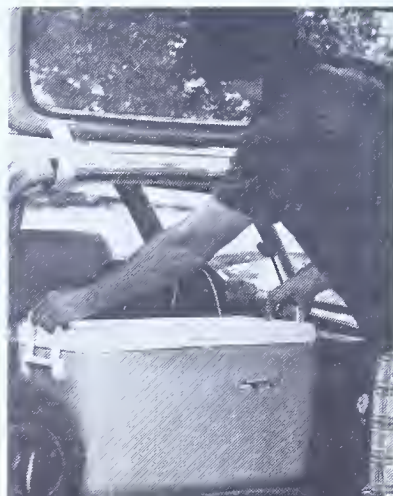
STAG TENT (page 50) shown with rain fly in place.



BRINKMAN'S Smoke-n-Pit (above) is a boon for the backyard chef. Stag's 4+5 backpack, weighing about four pounds, is roomy and comfortable to wear.



LOOS and Co. handy plastic-coated steel tow cable.



COLEMAN cooler (below) is easy to lift out. Cooler/seat by Covey is great for duck or deer hunters.



ment for two duck hunters. An outside belt holds 25 shot shells.

The unit could also be used by the stump-style deer hunter who plants himself for a long winter's wait . . . of course he'll have to carry it *and* the deer back out of the woods. Price, \$30.75.

Canoe campers have long improvised wetproof containers to carry stuff in when floating a river. Sportspal Canoe Co., Industrial Park Rd., Johnstown, PA 15904, has come up with the Canoe-pac. This is a big—really big—canoe bag that fits in the center of most canoes 14 feet or longer. The plastic-coated material is as water-resistant as sewn seams can be made and a thorough dousing (inside and out) with a water hose failed to produce any significant seepage. Unless you'd try an eskimo roll, this bag will keep gear for two persons totally dry in a downpour. It measures 24 × 30 × 12 inches, features velcro fasteners and web shoulder straps. \$49.95.

Over the years I've lost or loaned 49 (a slight exaggeration) tow chains. Like that flashlight I'm always complaining about, there never seems to be a sturdy rope or tow chain around when one is really needed. For \$5 a great gift idea is a tow cable from Loos and Co., 2 Cable Road, Pomfret, CT 06258. The plastic-coated steel cable is 12 feet long with forged steel hooks at both ends. The coating is bright yellow. Besides being conspicuous, it won't mark paint and is easy on the hands. The \$5 model tests at 3500 pounds and a \$7 job tests out at 5000 pounds.

A new cooler from Coleman solves one of the problems I've complained about for years—that cooler handles are always mounted too far down on the box to be useful. When a cooler is loaded in the trunk of a sedan or the back end of a station wagon, the handles are usually covered up by other gear. Then it becomes necessary to make a major equipment repositioning effort to get at the handles. Coleman's new Polylite cooler is a 48-qt. model with handles that swing out and up over the lid for easy lifting out of tight places. They also prevent back strain from having to lean over too far to



SIERRA Club cup makes inexpensive gift for hikers, campers that will really be appreciated.

get a good grip. Price is \$26.50 from Coleman Co., 250 N. St. Francis, Wichita, KS 67201.

An emergency light with a hundred uses has recently hit the market. From Quality Creations, 2801 Biscayne Dr., Youngstown, OH 44505, it's called Cyalume. The thing looks like no other light you've ever seen. It's simply a tube of plastic about eight inches long that gives off a soft green light when its internal ingredients are activated. To set the two chemicals in motion requires bending the tube until the inner glass breaks. This begins the lighting process which under tests burned for three hours. It's not a heat source light so can be used near flammable mixtures with no danger whatsoever. As an emergency signal light for camp, hiking or boat use, the Cyalume is much safer than flares. All the sport participants at the Summer Olympics had this light (or one similar to it) in their hands at the closing ceremonies. A great gift idea for the outdoorsman at \$15 per dozen.

A unique new outdoor magazine made its appearance this past year. It's worth mentioning as a gift idea for the thoughtful outdoorsman. *Gray's Sporting Journal* is published seven times a year and each issue is planned around a single theme, such as upland game, waterfowl, big game or expeditions and outings. It's printed on high-gloss paper and the art and color photographs are beautifully reproduced. To top it off, the outdoor yarns are of lasting quality. For a sample copy, send \$2.75 to *Gray's Sporting Journal*, P.O. Box 970, Farmingdale, NY 11735. A year's subscription runs \$18. Seems like a high price—but it's worth it.

LITTLE OLYMPICS

By Keith C. Schuyler

Photos from the Author

THOSE WHO attended the 19th Modern Olympic Games at Montreal or witnessed the brief moments accorded archery on television could have had a closeup view of the world's best at Valley Forge only days later. August 4-7, the entire U.S. Olympic archery team was on the green for the combined running of the 92nd National Archery Championship of the United States and the 3rd Archery Championship of the Americas.

It was only two days from the closing of the Montreal games until the opening of the big ones in Pennsylvania.

It was appropriate, too, that the archery championship of the Americas should be in the United States on the occasion of the Bicentennial year and equally appropriate that it be held at historic Valley Forge. Although this was only the third time for the Championship of the Americas, it is interesting to note that nine nations were represented. At the first modern Olympics in 1896 at Athens, Greece, only nine nations participated in the many events. More than 100 nations were invited to the Montreal classic. So, although archery returned to the

Olympic games only four years ago in Munich, Germany, after an absence of 50 years, popularity of the ancient sport has brought it increasing attention and has brought fame to the successful participants.

Coming down from Canada was Darrell Pace, with an Olympic Gold Medal in his pocket and a new challenge to face at Valley Forge. With this Cincinnati young man was Luann Ryon, of California, also holder of an Olympic Gold Medal. Actually, they were part of a considerable entourage moving from Montreal to Valley Forge, as nations competing in the Championships of the Americas send only their best to these meetings.

It was Pennsylvania's Johnny Williams, from Cranesville, who placed Pennsylvania and the United States first for men at the 1972 revival of what is certainly one of the world's most ancient and honored sports. Sharing that honor with a Gold Medal for the ladies was Doreen Wilbur, of Iowa.

Linda Myers, Pennsylvania's perennial high scorer and world champion, was not on the All-American team, although she had competed in the Olym-

ARCHERS FROM nine countries check scores at Valley Forge.



pics at Montreal as part of the United States team. But, Linda was shooting down the long target line as participant in the 92nd Annual National Archery Championship of the United States. This tournament was being conducted simultaneously during part of and concluded after the Championship of the Americas.

The other 1976 Olympic contestant, Richard McKinney, of Muncie, IN, was again shooting for the United States after claiming 4th place at Montreal.

It gets a bit confusing to separate the World, Olympic, National and Americas tournaments in target archery. This one is about the tournament of the western hemisphere, including all of North, Central and South America, that is rapidly developing into a big but friendly contest that can help cement relations among the many countries of the two continents. Officially it is the Archery Championship of the Americas, and this was No. 3. Entered in the tournament, aside from the United States, were Italy, Canada, Columbia, Mexico, Brazil, Puerto Rico, Costa Rica and the Dominican Republic. Teams were entered by Canada, Columbia, Mexico, Brazil and Puerto Rico for the men. For the women, it was Canada, Mexico, Brazil, Puerto Rico, Columbia and Costa Rica.

Festivities for the four days of archery were opened with a parade reminiscent of the great one held at Montreal. One of the covered wagons, among those which came from many points of the country to Valley Forge, happened along as the parade was forming and appropriately enough became a part of the procession. On hand was the oldest archery club in the United States, The United Bowmen of Philadelphia, chartered in 1828, to add their arrows and ability to the four days of festivities.

A pleasant interlude to the archery games was a dinner held by the United Bowmen at the Wetherhold estate of Mr. and Mrs. Proctor Wetherill the evening of August 4. Some forty officials, guests and coaches from the various countries participating in the archery games gathered for a most pleasant evening on the lawn of the

lovely property at Chester Springs.

The late Dr. Robert P. Elmer, archery author and many times national archery champion, was one of the pillars of the organization for many years until his death shortly before the club's 125th anniversary. The Bowmen held a tournament on the grounds at Valley Forge prior to national and international competition. The club still clings to many of the old English traditions. A mail tournament, with the Royal Toxophilite Society of England, has been an important activity in the club.

Contestants could have asked for little more than the weatherman provided, as a clear sky and a soft breeze from the west combined to get the tournament off to a good start. Attention was naturally focused on Pace and Ryon, as they had just beaten the world's best at Montreal. But now there were many competing who perhaps didn't qualify for the Olympics because of a personal slump or who might have improved substantially since the tryouts. Also, McKinney, fourth among all nations at the Olympics, was a big question mark. Actually, McKinney had bested Pace by 11 points at the tryouts for this one.

Others on the team included Carol Strausburg and Marlene Silcocks, of California; Irene Lorensen, Arizona; Richard Bednar and Douglas Brothers, Ohio. Lura Wilson, of Green, NY, was leader for the U.S. team.

Anybody's Match

So, as they lined up for the first round on August 4, it was anybody's match. The men faced their first target at 90 meters, the ladies at 70 meters. The metric system for distances prevails because this tournament is under the auspices of the Federation de Tir a l'Arc, the International Archery Association. Some big surprises were posted at the end of the first day. Both Darrell Pace and Luann Ryon looked grim as they gathered up their paraphernalia at the shooting line, for McKinney was in first place, leading Pace 610 to 609. Luann Ryon was standing fourth among the ladies with a 588. Marlene Silcocks led with a fat 600.



LUANN RYON, concerned after first day's showing, rallied to win ladies' competition.

Pace had cause to be concerned because both McKinney and Brothers had competed in the World Championships and they had shared the two top spots in the Amateur Division of the PAA Tournament last year. Further, they have between them a number of top bracket wins in some of the toughest tournaments in the country. Yet, Pace had shot the first 1300 Single FITA ever, and he had repeated at the tryouts with a 1314. Both Brothers and McKinney can be erratic, and McKinney tends to drop bad arrows under the pressure of competition. But both were relaxed here and enjoying the tournament, whereas Pace seemed off in a world of his own. However, Brothers was down at 580, 30 points off the pace. Bednar was holding steady only 6 points behind Pace. With Americans holding four out of the five top positions, Roger Lemay, of Canada, seemed to be the only threat at that point, although he was 16 points behind McKinney.

On the ladies' side, things looked even more serious for Gold Medalist Luann Ryon. Both Silcocks and Irene Daubenspeck, of Arizona, filling in for Irene Laurenson, were serious contenders. Again, the only foreign threat was a Canadian, Lucille Lemay, who was but 17 points behind Ryon.

A clue to the apparent problem might have been seen in the fact that Luann Ryon had dropped one arrow on the 60-meter target. A 10 on that arrow would have placed her within 2 points of leader Marlene Silcocks.

Winner of the men's tournament was decided on the morning of the second

day when McKinney lost 11 points to Pace at 50 meters. Even though McKinney's 310 was the third highest score for the distance, Pace pounded in a 321 to take a 10-point lead. McKinney fought back with everything he had to tie Pace at 30 meters when each recorded a new high of 348 for the event at this distance. Pace's final tally of 1278 was also an unofficial new record for the All-American Championship, and McKinney's score exceeded the old record by 33 points.

So, when the final scores were posted, it was Pace, McKinney and Bednar, in that order.

On the ladies' line, Luann Ryon came back with a whopping 298 at 50 meters to pick up 8 of the 12 points she had dropped the first day to Marlene Silcocks. It was a new record for this tournament at the distance. At 30 meters, Ryon peppered her target for a 330, 2 points better than the tournament record. Irene Daubenspeck had an equal score at 30 meters, but her poor showing at 70 meters on the first day came back to haunt her. The three top ladies finished only 8 points apart, Ryon taking the title with 1216, with a 1213 posted for Silcocks and 1208 for Daubenspeck. It was one of the closest FITA's for ladies on record. Lucille Lemay, of Canada, was fourth at 1167.

Although Carol Strausburg finished sixth for the U.S., she set a new tournament record at 30 meters with a 331.

In the team scores, United States won comfortably in both the men's and women's groupings. Ryon, Silcocks and Daubenspeck had a 3637 for a new ladies' tournament record, besting Canada, in second place, by 235 points. The men also, Pace, McKinney and Bednar, had a strong showing in first place, beating out the Canadian team by 188 points. Columbia placed third among the nations for the ladies and Mexico finished third among the men's teams.



The 3812 posted by the U.S. men has been established as a new world record for the Single FITA team score. This wipes out a 3775 record established by an Italian team earlier this year.

The fourth running of the Archery Championship of the Americas is scheduled for Rio de Janeiro, Brazil, in 1978. Although the World Tournament and the Olympics provide an international flavor for archery, the Championship of the Americas has a special meaning to the participants because of the proximity of member nations to each other. At least to date, there have been none of the international political problems which have plagued the Olympics.

As usual, Clayton B. Shenk was director for the recent event and Allan Martin served as field captain with the assistance of C. R. "Bud" Fowkes, William Johnson, Marvin Goetz, Nancy Brown, Julia Bowers and Ed Brown.

Following the All-American Tournament, Pace went on to win the 92nd Annual National Archery Championship with a double FITA score of 2576. He was followed by Edwin Eliason, Seattle, with a 2567 and Rick McKinney was third at 2545. There was a field



DARRELL PACE, world's best, demonstrates form as telephoto lens distorts distance to 90-meter target.

of 157 male shooters, including many who shot as guests from visiting nations: Italy, Japan, Canada, France, Great Britain, Brazil, Mexico, Columbia, Puerto Rico, Guam, Costa Rica and the Dominican Republic.

Among the 92 ladies, Luann Ryon led comfortably with 2497 followed by Marlene Silcocks at 2455 and Lynette Edwards, Arizona, at 2411. Irene Daubenspeck was fourth and Pennsylvania's Ruth Rowe was fifth.

John Williams, now of California, was eighth in scoring, first among professionals, with 2454.

Final Result
3rd Bi-Annual Target All-American Championship
Top 10

<i>Women</i>			<i>Men</i>		
1. Luann Ryon	USA	1216	Darrell Pace	USA	1278
2. Marlene Silcocks	USA	1213	Richard McKinney	USA	1268
3. Irene Daubenspeck	USA	1208	Richard Bednar	USA	1266
4. Lucille Lemay	Canada	1167	Roger Lemay	Canada	1232
5. Lucille Lessard	Canada	1147	Douglas Brothers	USA	1202
6. Carol Strausburg	USA	1145	Ted Gamble	Canada	1201
7. Maria DePerez	Columbia	1114	David Mann	Canada	1191
8. Maria DeSilva	Brazil	1090	Don Warren	Canada	1188
9. Wanda Allen	Canada	1088	Renato Emilio	Brazil	1142
10. Aurora Breton	Mexico	1087	Ruben Ramirez	Mexico	1126

<i>Women</i>			<i>Men</i>		
1. USA	3637	USA	3812		
2. Canada	3402	Canada	3624		
3. Columbia	3093	Mexico	3279		
4. Mexico	3078	Brazil	3189		
5. Brazil	2979	Puerto Rico	3180		
6. Puerto Rico	2670	Columbia	3133		
7.		Costa Rica	2997		

A Matter of Choice

By Don Lewis

Photos by Helen Lewis

"HOLD IT," Ray Johns whispered. "A doe's coming out of that thicket above us."

When Ray saw the deer, I was examining some fresh tracks and couldn't see where he was pointing. When twenty seconds passed and Ray didn't fire, I eased into position behind a tree. One quick glance showed the doe standing broadside less than 100 yards away.

"You'd better shoot quick. That doe is mighty nervous," I urged my hunting companion.

"Take a shot if you can. I'm blocked off by some brush," Ray whispered.

I knew he meant he couldn't see the doe, so I lost no time in raising the Springfield and planting the front sight smack on the shoulder. When the cut-down military rifle cracked, the doe crumpled; it was a clean kill.

"Sorry you had to pass up a shot, but I doubt if she'd have stood still more than a few seconds," I told him as I unloaded the Springfield.

"Look, you made a nice shot offhand, and your meat bill won't be as high this winter. It was my tough luck to have the deer stop behind the biggest tree in Jefferson County," Ray said jokingly. "No apology is necessary."

There was no doubt about the clean kill he referred to. The 180-gr. Silvertip 30-06 passed through both shoulders, damaging a lot of eating meat when it exited. Ray was so taken with my results that he insisted on using the Springfield for the rest of the day.

I was a lot younger when I killed that deer, and back then I thought the 30-06 in the cut-down Springfield was tops in the big game rifle field. I expected to use it as long as my legs would carry me into the deer woods, and never suspected the day would come when I would be testing literally hundreds of makes and models of rifles. If I hadn't opened a small reloading shop during



SOME OF the author's big game outfits: (from left) Ruger M-77 308, Redfield 2-7X scope; Ithaca LSA 55 243, Weaver 2 1/2-7X; BSA Ithaca 7mm Remington Magnum, Weaver 1 1/2-4 1/2 X; Remington 760 30-06, Mauser 3-9X; Ruger No. 1 7x57 Mauser, Bushnell 3-9X; Interarms Mark X 26-06, Redfield 6-18X.

the 1950s that led me into the field of gunwriting, I might have held fast to my strong beliefs in the old Springfield.

I'm not implying that getting away from the modified military outfit was a good thing. Not at all. Countless Enfields, Springfields and Mausers are turning in star performances every year. There's no getting around the fact the old 30-06 and 8 x 57mm cartridges will be popular for many years to come, and the '06 has to be ranked close to the top as Pennsylvania's favorite big game load. Also, this old military cartridge has contributed to the birth of several popular creations such as the 270 Winchester, the 280 Remington and 25-06, plus many wildcat outfits.

But no matter how much a particular cartridge has to offer, it's not first choice for every hunter, and this holds for the 30-06, too. Although it is quite capable of making clean kills on every species of North American big game, the 30-06 isn't going to be every hunter's favorite. Despite all it has to offer, hundreds of thousands of hunters prefer another cartridge. There's noth-

ing wrong with this, and I personally think it's wise.

A cartridge's popularity, along with its effectiveness, usually comes not only from its power but also from the availability of a wide range of bullet weights. This is one reason the 30-06 has remained high on the hunter's list. The 30-06 has a choice of bullets ranging from a 100-gr. plinker to the mighty 220-gr. slug. (Actually there are even lighter and heavier bullets, but they're not readily available.) I should point out here that all 308 calibers can use this wide range of bullets, but possibly excluding the Magnums, the 30-06 does a better job than any over the entire range of weights. Tests I've conducted with the 30-06 indicate it's at its best with bullet weights from 150 to 165 grains.

While advertising claims extol the virtues of the powerful Magnums, it's unfortunate that some of the old conventional cartridges are being pushed out of sight. I can appreciate the trend to and belief in some of the newer creations like the 308 and 25-06, and I'm an ardent supporter of the 7mm Remington Magnum, but in reality, there is not a whale of a difference between most of the new cartridges and the ones that have been used since World War I.

Brush Buster

For many years, the 35 Remington was king in the heavy brush. Its 200-gr. slug was ideal for brush busting up to 100 yards. Around 1925, when the 270 Winchester made its appearance with a 130-gr. bullet, the big bore, heavy slug hunters bent double laughing. When the laughing finally stopped, the glaring fact remained that the 270 was a great big game cartridge. Loaded with a 150-gr. bullet, the peashooter of the 1920s will stop in a hurry any big game animal up to and including elk.

In the late 1800s when the 30-30 Winchester made its debut, not even the most optimistic marketing director ever dreamed it would kill more game in the United States than any other cartridge, or that it would still be dear to the hunter's heart three-quarters of a century later. With the 150-gr. bullet,

velocity is under 2000 fps at 100 yards and kinetic energy is just about the 1300 foot-pound level that I think is a prime requisite for taking deer. With such unimpressive ballistics, what keeps this old cartridge alive and well when it's surrounded with a horde of more powerful critters? The answer is simple: the 30-30 with all its mildness is a hunter's cartridge. It's pleasant to shoot and retains its popularity with the man or woman who isn't interested in super ballistics but wants a good cartridge for the yearly big game hunt.

I'm not going all out for the 30-06 or the 30-30. I am trying to show that each of these cartridges is effective and has a definite place in Pennsylvania's big game picture. Sometimes I worry that today's hunter is being brainwashed with ballistic claims. This is certainly not a reflection on the hunter's intelligence, for no one can be blamed for being influenced by what he continually reads. I do think too many hunters are stashing the conventional big game outfit in the attic to become the proud owner of a swashbuckling Magnum. The fact that more and more large Magnums are seen in the field each year substantiates this opinion. The part that concerns me is that the hunter carrying a recently purchased Magnum in the deer woods is convinced his old outfit was obsolete.

I gained some valuable experience on this subject during the last few years I ran a sight-in range. The younger hunters were Magnum conscious from the start, but not until the early 1970s did the fever catch on with hunters who had passed the two score mark in years. In many cases, it was a wrong move. The hunter who had given up the 270 Winchester or 32 Special for some super Magnum soon learned the big cartridge was not all that pleasant to shoot. Time and again, men and women with a good many years of hunting to their credit would not take a few shots from the benchrest to check my sight-in work. In those cases, the Magnum had destroyed the valuable desire to shoot for practice.

There is no sensible argument that can be mustered to prove the big Magnums aren't superior to the non-



HARRY Montgomery uses Remington 700 BDL 300 Winchester Magnum for big game here and in far North.

belted case, but a strong argument can be put forth against the hunter's need for one in the deer woods. I could make this point more emphatic by asking which is better for quail—a fast-swinging, short-barrel double or a 32'', full-choke 12-ga. autoloader.

There are times when my personal feelings overcome my better judgment and I feel like hauling off and saying in a very loud voice that ballistics are bunk. The only reason I don't do it is that I know better, and my long association with all types of firearms has shown that ballistics are really more than just impressive figures. But relying totally on ballistics when purchasing a new shotgun or rifle is not enough. If it were, every hunter during small game season would be using a 3 $\frac{1}{2}$ " 10-ga. Magnum and the big game hunter would be in a turmoil deciding between the Winchester 375 and the Weatherby 378 Magnum.

Must Be More Cautious

No, we must be far more cautious and thorough than that. Choosing the proper cartridge has to be more than picking the heaviest slug in some large bore. Ballistics are essential, and I'm the first to admit that studying them with an open mind will establish guidelines worth following. But accepting them as gospel could lead to purchasing a cartridge that will do more to spoil the hunt than to enhance it.

For the sake of comparison, let's take a quick look at the ballistics of several popular big game loads. We might learn that under normal shooting conditions, ballistics aren't the prime factor to consider. I started this article with the 30-06, and I want to compare it with the unimpressive 300 Savage. Now, my use of the word "unim-

pressive" in describing the favorite of thousands of Pennsylvania hunters must not be construed to mean the 300 Savage isn't one awfully good deer cartridge. Nevertheless, by today's standards, the 300 Savage is overlooked, especially by the younger generation.

Getting back to ballistics, it seems unfair to compare the milder 300 Savage with the 30-06, but my idea is to determine exactly how much better the 30-06 is. Starting with the 150-gr. slug, the '06 shows a muzzle velocity of 2970 fps, with 2620 at 100 and 2010 at 300 yards. The same weight slug in the 300 Savage leaves the muzzle at 2670, drops to 2390 at 100 and is down to 1890 at 300 yards. While there is a difference in velocity, it's not astounding. Since relatively few shots are taken beyond 200 yards, the Savage's 2130 fps compared to the 06's 2300 fps at that distance—less than 200 fps difference—is nothing to be ashamed of.

Right off the bat, the high-speed advocates asked about energy. Impact or hitting power is really what kills, and I've already mentioned the whitetail outfit's slug should be capable of producing at least 1300 foot pounds at 100 yards. The '06 creates 2280 at 100, 1760 at 200, and 1340 at 300. The 300 Savage's 150-gr. bullet is not too far behind with 1900 at 100, 1510 at 200, and 1190 at 300. Using 200 yards as maximum normal range, either cartridge has ample hitting power. True, the 30-06 has the edge, but it's not all that great, and certainly doesn't put the reliable 300 Savage in line for oblivion.

Now, we come to the one aspect of ballistics that nearly all shooters and hunters put a great deal of faith in. Trajectory! The arc of the bullet's flight is what can send one cartridge down the drain while another with only an inch less at 200 yards is the ultimate factor the new gun buyer uses in selecting the proper cartridge. The 30-06, 300 Savage and most of the old-timers are



being cast aside for the higher speed Magnums. Yet, the mid-range trajectory of the 150-gr. bullet from the 30-06 is a mere 0.6" at 100, 2.5" at 200, and just 6.5" at 300, while the 300 Savage's arc is not much different with the same bullet—0.7" at 100, 3" at 200 and 7.6" at 300. I call that pretty flat shooting for cartridges born back in the gaslight era.

300 Magnum

My longtime hunting buddy Ray Johns, after looking over some of these ballistics, asked jokingly if I was afraid to show what the big Magnums offered. Not at all. The excellent 300 Winchester Magnum gets the 150-gr. bullet out the muzzle at 3400 fps, drops to 3050 at 100, 2730 at 200 and 2430 at the 300-yard mark. Energy is quite good, with 3100 foot pounds at 100, 2480 at 200, and 1970 at 300. Mid-range trajectory is 0.4" at 100, 1.9" at 200 and 4.8" at 300. While these figures are better than those for either of the other two, I simply asked my friend if all that power and speed would have been needed on the doe I shot in Jefferson County. I don't need to tell you his answer.

Suggesting a cartridge like the old 7×57mm Mauser to the modern hunter will get about as much positive response as suggesting going back to gaslights, but the 7mm Mauser is neither dead nor inadequate. Several major gun companies, including Savage, in their Model 111, and Ruger, in the M77 version, are now chambering for this fine cartridge. The 7×57 is not just a step above the Winchester 32-40 that tossed a 165-gr. slug out the muzzle at only 1500 fps. In the 7mm Mauser, a 175-gr. factory load hits 2400 fps at the muzzle, and the handloader can step the 160-gr. bullet up to 2600 fps and the 140-gr. to nearly 2800 fps. These are modern ballistics.

"So what?" is the usual reply from the Magnum user. The 300 Weatherby or 300 Winchester guarantees plenty of power and speed for any shot, and the handloader can reduce the load, if necessary. I have to agree this is all true, but I keep thinking that most shots at deer and black bear are not super-long ones, nor do these small-

boned animals require powerful cartridges suitable for moose or grizzly bear.

This article was not written to confuse. Nor am I trying to win converts away from the Magnums. Through close association with nearly all aspects of hunting, including the hunter, I have learned firsthand that too many people put too much faith in paper ballistics. A bullet with an inch less trajectory arc at 200 yards means nothing for Pennsylvania's two big game animals. Each animal offers a fatal area nearly as large as a two-gallon can.

I still claim a suitable big game outfit is one that is adequate in power and a pleasure to shoot. Psychology is a strong element in hunting and shooting, and the hunter who is afraid of his rifle will never enjoy it. This season, I am forsaking my 7mm Remington Magnum along with several other cartridges and will bank my hopes on a 160-gr. bullet in front of 41 grains of IMR 4320 from my Ruger No. 1 single shot 7×57 scoped with a Bushnell 3-9X.

My final bit of advice is to choose an adequate cartridge, and select the type of action that is compatible with your philosophy. Don't be swayed by the camp crowd or your best hunting pal. A big game outfit should be a lifetime investment. Which cartridge would I suggest? As I've suggested for many years, it's nothing more than a matter of choice

JACK THOMAS of Worthington and author discuss the S&K mount setup on a BSA Ithaca 7mm Remington Magnum with Weaver 1½-4½X scope.



In the wind

toni williams

information writer;



A change in attitudes about water sources is evident in the abandonment of plans for 13 of 16 dams planned for the Potomac River by the Corps of Engineers. (Two more are being considered and the third is being built.) For 13 years, the National Parks and Conservation Association has fought for use of the upper Potomac estuary (a *natural* reservoir) as an emergency water source for the nation's capital. NPCA has also urged legislators to examine the root of this and countless other environmental problems: overpopulation.

A "bumper crop of young birds" has been reported for ospreys nesting in southern New England and Long Island. A Cornell University ornithologist reported at least 130 young, affording hope that the drastic decline blamed on the reproductive effects of DDT has been checked.

New ammunition for the Good Guys—the growers who have trouble protecting cherry crops but don't want to kill the birds that dine on them. Ten years of field testing the chemical methiocarb, registered this spring for use in protecting seed corn from blackbirds and as an insecticide for cherries and peaches, has shown no deaths or chronic effects. The short-lived carbamate breaks down rapidly in sunlight. It produces temporary but violent vomiting in every major species of birds which attacks orchards. U.S. Fish & Wildlife Service biologists expect approval for this use by EPA soon, and are hopeful about its use on other crops.

Bills have been introduced in both houses of Congress which would bring more water developments under the Fish and Wildlife Coordination Act and increase the efficiency of interagency input. Now, the originating agency draws up plans, submits these to other agencies which review and comment, reworks the plans, and so on. By incorporating advice by fish and wildlife professionals at an early planning stage, much cost and delay could be avoided. No action is expected until next year's Congress convenes.

Opposition is forming to a planned channelization project designed to straighten and stabilize 198 miles of the Rio Grande River which has historically formed a somewhat variable border between the U.S. and Mexico. The project, which would turn the meandering river into a six-foot-deep ditch tapering from 40 feet wide at the top to 20 feet wide at the bottom, would reportedly devastate valuable wildlife habitat. Vegetation would be cleared for 50 feet on either side of the channel. Tidy as the border would be, animals just don't seem to "dig" ditches.

Recyclable paper wastes are bringing much higher prices this year than they did during the economic slump last year. Top grades bring up to \$200 per ton. The U.S. recycles less than some other countries—22 percent reused fibers in new paper products, versus 45 percent in Britain, Denmark and West Germany. But such increased demand will hopefully encourage the industry to use waste more efficiently. Such a change in wood product use patterns would alleviate some solid waste problems, but might also affect timber goals, which cannot be adapted to quickly.

A significant new policy was recently adopted by the Susquehanna River Basin Commission after public hearings. Certain new water users who consume all or part of the water they withdraw are now required to "pay back" the river when the flow falls below a certain minimum. A new concept in the eastern U.S., the SRBC's compensation regulation is designed to protect river-oriented resources and to help assure adequate water to meet future needs.

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